LAST MINUTE
OIL NEWS SECTION

News By Teletype from 4 News Bureaus

National Petroleum News

News From Oil Industry Everywhere

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Oil Men Protest Tax On Surplus To Congressmen

WASHINGTON, June 14.—The mail of senators and congressmen from many sections of the country is heavy with protests from small businessmen back home demanding that something be done at this session of Congress to provide some relief from the undistributed profits tax of the 1936 revenue law.

Their complaint is that this heavy tax on undistributed earnings of corporations—big and little—hits the small company hardest because it bars paying off debts, prevents expansion and modernization of facilities and makes it virtually impossible for these companies to lay aside any reserve funds for the next "rainy day."

Independent oil jobbers of South Carolina have journeyed to Washington to back up personally their letters and telegrams to their representatives in Congress asking relief from this "inequitable tax."

The White House maintains its silence on the possibility of amending this tax at the present session of Congress. Last week newsmen questioned President Roosevelt about it; but his answers were evasive, not committing him one way or another.

But even if the administration itself takes no steps in this direction, the White House's silence may be interpreted on Capitol Hill as indicating that the President would not stand in the way if Congress, on its own initiative, decided to provide some relief from this much-criticized tax. Once the ball is rolling it will gather momentum. There is considerable sentiment in Congress—although unorganized at present—in favor of changing provisions of this tax.

President Roosevelt has asked Congress to plug up certain alleged loopholes in the income tax law. Past performances indicate that once Congress starts tinkering with the tax law, anything can happen—for better or for worse.

Highway Fund Is Voted From General Revenue

LANSING, Mich., June 14.—The earmarking of $5,000,000 by the Michigan legislature from the current general revenue fund for highway improvement marks the first instance, Henry G. Hunt, secretary of the Michigan American Petroleum Industries Committee, believes, in which a state has arranged for a continuing appropriation from its general revenues for this purpose.

The $5,000,000 bill was passed by the house June 10 and had earlier been passed by the senate. There is also a bill before the legislature to appropriate $2,000,000 from the general revenue fund each year to go to the counties, to be used exclusively in highway improvement and a bill for $600,000 for snow removal.

The theory back of these appropriation bills is that a good share of the receipts from the state's sales tax, which go into the general revenue fund, come from the sale of cars, tires, accessories and so on and should go to keeping up the roads.

Total receipts from Michigan's gasoline tax and auto license fees go to the highway departments, there being no diversion to other agencies, according to Hunt. Net total receipts from the state motor fuel tax in 1936 were $25,739,000.

Sun Oil President Scores Pennsylvania Investigation

HARRISBURG, Pa., June 12.—Factors accounting for approximately half of the retail price of gasoline are factors over which the oil companies have no influence whatever, J. Howard Pew, president of Sun Oil Co., told members of Pennsylvania's legislative commission for investigating the oil industry, at its opening hearing here yesterday.

Pew enumerated the elements going into the retail price as (1) price at Atlantic Coast terminal, (2) freight, (3) refiner's marketing costs, (4) retail dealer's allowance, (5) state tax, and (6) federal tax, and added:

"Of these cost items, the refiner has no responsibility for freight, for the retail dealer's allowance, or for the state and federal taxes. In short, approximately half of the retail price depends on factors in regard to which the oil companies have no influence whatever.

17 Companies Represented

Representatives of 17 oil companies appeared for the session, called by Judge Ralph H. Smith, chairman of the five-man commission set up by the legislature, "to informally discuss the problems raised by the investigation."

Pew chief "witness", blamed "punitive chain store legislation," which he said forced the oil companies out of retailing, for a large part of the "chaos" which the commission ostensibly was appointed to investigate. He declared:

"So long as the oil companies operated filling stations of their own and were a factor in retailing, their participation afforded an element of balance in the determination of the retailer's "spread." But since the oil companies have been forced out of retailing by punitive chain store legislation, this balancing factor has been lost.

Chaos To Be Expected

"This has resulted in thousands of dealers being thrown into the retailing department of the business. Is it not too much to expect that this impalance of an already sensitive structure should produce anything but a condition of chaos in the first months of its operation. This is the inevitable consequence of so serious a change in the marketing mechanism."

Pew pointed out that, with these dealers "on their own," many have felt able, because of large gallonage, large volume of accessories, or other reasons, to give their customers a price lower than their competitors who maintained a 4-cent spread, which "is pretty generally accepted as on the whole giving the retailer a fair return for his services and investment."

The oil companies, he said, through their influence, when they were factors in retailing, "undoubtedly tended in some measure to maintain a spread at about this figure."

It is these inexperienced retailers, with their unstable and inexperienced price ranges, that have contributed to the wide variance of prices in Pennsylvania, Pew said, but added that "these conditions will inevitably

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What's Back of Oil Depletion Tirade, Oil Men Are Pondering

By Teletype
N. P. N. News Bureau

TULSA, June 15. — Is there any connection between the peremptory demand of the solicitor of the Post Office Department, on the eve of last fall's presidential election, for money from indicted oil men and oil companies and others and

Is there any connection between the severe scolding he gave the oil industry for not contributing and his reference to how a Democratic congress had continued the 27½ per cent oil depletion law and his remarks about the oil men "biting the hand that feeds them", and

Is there any connection between all this and President Roosevelt's tirade against "perhaps the most glaring loophole in our present revenue law" the oil depletion allowance, as stated in the President's message to Congress June 1?

These questions, and what follows, are some of the thoughts in the back of the minds of some oil men and observers here, as gleaned from conversations with them.

Oil men also have in mind the indictment of four score oil men and a score of companies at Madison, Wis., last summer, an indictment they say is sur-

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Judge In Houston Reverses Ruling In Removal Case

TULSA, June 12. — O. H. Carlisle, division sales manager at Houston for Gulf Oil Corp., lost the second round in his contest against removal to Madison, Wis. to stand trial on the federal indictment which alleges conspiracy to violate the Sherman anti-trust act.

He won the first round in April, when U. S. Commissioner W. F. Carothers, Houston, ruled that Carlisle was wrongfully indicted and ordered his discharge. Government counsel then requested Judge Thomas M. Kennerly, of the southern federal district of Texas, for hearing de novo and on May 14 the application for removal was heard by Judge Kennerly.

In an opinion filed June 9, Judge Kennerly reversed the commissioner and ordered Carlisle committed to await removal to Madison for trial. Appeal is being taken from this ruling and will be heard by the U. S. Circuit Court at New Orleans.

"The question for decision," said Judge Kennerly, "is not whether defendant is or is not guilty as charged in the indictment. The indictment having been offered by the government, the question is does the evidence offered by the defendant require a finding that there is no substantial ground for bringing him to trial on the indictment. If it does, he should be discharged. If it does not, he should be committed."

After quoting a part of the indictment showing the nature of the charge, Judge Kennerly said:

Engaged in Management

"The evidence shows defendant to be now, and to have been for about 33 years, associated with or employed by the Gulf Companies. Since 1932, he has been division sales manager of the Houston. . . division of the company, which division includes the area described in the indictment as the East Texas field. It shows or tends to show that he was, during the time covered by the indictment, actively engaged in some degree in the management, direction and control of the affairs of the Gulf companies in such division, including the East Texas field.

"On direct examination, defendant's answers (inadvertently I am sure) leave the impression that he was almost wholly without knowledge of the conditions in the so-called Mid-Western area as described in the indictment, which, considering his long connection with, and the nature of his connection with, the oil industry, would be unusual. His cross-examination, however, reveals general familiarity with such conditions, and reveals knowledge that the spot market tank car prices of gasoline in that area was and is affected by the spot market prices of gasoline in other areas, including the East Texas field, etc." . . .

The Controverted Issue

"So that the first really controverted issue is whether defendant was a party to the alleged conspiracy as quoted above, and had knowledge or connection with its alleged formation and workings. Defendant makes a positive statement that he was not. But this is only defendant's positive statement that he was not, against the positive allegations or statements in the indictment that he was. An examination of the testimony of the other witnesses and of the documentary evidence adds little or nothing to either side of this particular issue. . . .

". . . when the testimony of defendant, and that of the witnesses Gwyn, Slater and May, on direct and cross-examination (and particularly that of May on cross-examination), and the documentary evidence, particularly the telegram of June 28, 1935, are considered, I do not think it can be said that it requires a finding that there was no such East Texas buying campaign. And that on the whole case, it must be said that the evidence does not require, when viewed in the light of the authorities, a finding that there is no substantial ground for bringing the defendant to trial on the indictment, leaving it for the court or a jury in the district where the indictment is pending to determine his guilt or innocence, on which question I express no opinion."

Other Points Discussed

The court discussed briefly other controverted points. One was the contention that the indictment does not allege that Carlisle, as an individual, entered into the alleged conspiracy or that he performed or authorized the performance of any of the acts in furtherance of the so-called conspiracy; the affirmative statement in the indictment that the position of Carlisle in the Gulf organization was unknown to the grand jury; and the question of venue and jurisdiction. On the latter point the court said:

"The place of the formation of the alleged conspiracy is not set forth in the indictment. The indictment alleges its formation by all defendants, and certain acts by all defendants, in the "Mid-Western area," including the Western District of Wisconsin, certain acts by some of the defendants (called the East Texas buying program) in the East Texas field and certain acts by some of the defendants in the Mid-Continent field (called the Mid-Continent buying program). Then certain oil journals and their owners are alleged to have committed certain acts in an area including the Western District of Wisconsin, and the major oil company defendants (other than the Gulf and another) are alleged to have committed certain acts in a certain area, including the Western District of Wisconsin.

"I think there are sufficient allegations of venue . . ."

MADISON, Wis., June 15.—Federal Judge Patrick T. Stone today changed the date for commencement of the oil conspiracy trials from Sept. 27 to Oct. 24. The change was made, Judge Stone said, to avoid a conflict with the term of court which he will commence at Superior, Wis., late in August.

Roosevelt Signs The Two-Year Extension of the 'Hot' Oil Law

N. P. N. News Bureau

WASHINGTON, June 15.—President Roosevelt today signed the bill of Senator Tom Connally, Texas, to extend operation of the Connally "hot" oil law to June 30, 1939.

Presidential approval of the bill, finally passed last week, came just in time to prevent automatic expiration of the "hot" oil law, scheduled to lapse at midnight, June 16.

The bill to extend the law prohibiting interstate shipment of oil produced in violation of state laws had a stormy passage through Congress, although most of the opposition developed from but one group in the industry—independent marketers.

Conference Report Accepted

Final passage last week came after conferees from House and Senate agreed to report back the bill providing for the extension only to 1939, instead of making the "hot" oil law permanent, as provided in the bill as originally introduced. The amendment limiting the extension to the two-year period was tacked on by the Cole subcommittee of the House Interstate and Foreign Commerce Committee.

Senator Connally introduced his bill to make permanent the law bearing his name before the present session of Congress was more than two weeks old—on Jan. 13. It was referred to the Senate Finance Committee, and a subcommittee headed by Connally held hearings in February, reporting the bill out without amendment. It passed the Senate March 29.

An identical bill was introduced in the House on March 5 by Congressman Martin Dies, Texas, and referred to the Interstate Commerce Commiteee. A subcommittee headed by Congressman William P. Cole, Maryland, and made up of the members of the Cole subcommittee which investigated the petroleum industry several years ago, held hearings late in April on the identical bills.

This committee, however, changed the "permanent" feature of the extending legislation to limit the extension to June 30, 1939. In this form it passed the House on June 3, and was sent back to the Senate for concurrence in the amendment.

The Senate, on motion of Senator Connally, disagreed with the limiting amendment, and appointed conferees to meet with House conferees to reach some sort of agreement.

Conferees agreed to accept the House version—extending the "hot" oil law for two years—although Senate conferees, headed by Connally, yielded only because of the shortness of the time before the date for expiration of the law unless extended.

In bringing back his report on the conference, Connally told the Senate:

"Sit Down" Strike

"The House conferees were firm in their opposition. The fact that the act expires on June 15 makes it necessary to have it extended in order to prevent a lapse. Therefore, there was nothing for the Senate conferees to do but surrender, because the House went on a 'sit-down' strike."

Opposition to the bill, expressed by independent marketers at both House and Senate hearings, was based on their contention that the Connally "hot" oil law enables large companies to control crude supply.

Members of the Cole subcommittee, in limiting the bill to two years, said that Texas' conservation law, which is the only one now operating under protection of the "hot" oil law, expires in that period, and that the interstate oil compacts, too, will expire in that period.

U. S. Senate Cuts 'Nuisance' Taxes Extension Time

N. P. N. News Bureau

WASHINGTON, June 15. — The Senate Finance Committee today voted to extend the "nuisance" taxes levied in the Revenue Act of 1932 only until June 30, 1938, instead of to June 30, 1939, as provided in the "extending" resolution passed by the House last week.

These taxes include the federal levies on gasoline and lubricating oils, the tax on transportation of oil by pipeline, and the import taxes on crude oil and its products, as well as the tax on tires and tubes and numerous other excise taxes.

The committee was in session only about two hours before reaching its decision to amend the resolution. As introduced by Chairman Robert L. Doughton, of the House Ways and Means Committee, and passed by the House, it would have extended the taxes for two years.

Unless extended, the taxes are scheduled to die on June 30 this year. The resolution was referred to the committee at yesterday's Senate session and will be reported back to the Senate with the amendment within a few days.

Party Fight on Floor

Opponents of continuation of the "nuisance" taxes—most of them Republican members—staged an attack on the resolution of the House floor last Friday, and mustered 93 "nay" votes on the final ballot. There were 230 "yeas", and 109 members not voting.

Congressman John O'Connor, New York, however, was one of the Democratic members who opposed passage, contending that the taxes contained in the resolution are "unjust and inequitable."

"For instance," O'Connor said, "the federal government, without any justification whatever, has invaded the gasoline tax field. That field should have been left entirely and exclusively to the states. There is no justification whatsoever for that particular tax."

Similar sentiments as to invasion of states rights was voiced by Congressman Harold Knutson, Minnesota Republican, and other members.

Other members called attention to the fact that no hearings were held before reporting the resolution out of the Ways and Means Committee, inferring "railroading," and Republican members of the committee who signed a minority report in returning the resolution to the floor, were augmented in their contention that this continuation of the "nuisance taxes," like previous extensions, was a "breach of faith."

Congressman John D. Dingell, Michigan Democrat, called the taxes which the resolution seeks to continue "grossly unfair," and asked:

"Why in the world should two of our great industries—the automobile and the oil and refining industries, which are so dependent upon the automobile industry for existence—be singled out to be taxed for practically three-fifths of the expected tax revenue in this bill for the year 1938? There is absolutely no justification for it. And it is not a nuisance tax in this instance; it is a downright discriminatory and burdensome tax amounting to $349,900,000."

Promise Recalled

Dingell recalled "very distinctly" talking over this tax with members of the Ways and Means committee in 1933, when he said he was assured "that the extension of two years at that time would be the finale so far as this method of taxation was concerned. At the expiration of that time we extended the tax for one year, and then extended it for another two years. Now we are facing an additional two-year extension."

As a matter of fact, the oil industry's share of the $502,000,000 income estimated from these taxes is expected by the committee to be $237,300,000, and the automobile industry's, $112,600,000.

Congressman Allen T. Treadway, Massachusetts Republican, quoted from the report of the Ways and Means committee on these taxes in 1932, when they were first levied, in which it was promised they would "automatically go out of operation on June 30, 1934, since they were emergency levies.

"Positive Burden"

Commenting on their appellation "nuisance taxes," Congressman Dingell said: "These may be nuisance taxes insofar as they are applicable to the chewer of gum or the user of cosmetics (also taxed under the excise taxes), but they are a positive burden upon the user of an automobile. An automobile is not a luxury, it is an absolute necessity, and it is high time that we struck down any further attempt to cripple these great industries."

An appeal was made for a "more inteligent" tax program, as was promised by the Ways and Means committee last year, according to Congressman J. William Ditter, Pennsylvania Republican.

Proposes $5-Day, 36-Hour Week For Oil Industry

By Teletype
N. P. N. News Bureau

WASHINGTON, June 15. — Congressman Lyle H. Boren, Oklahoma, appearing before the joint congressional labor committee holding hearings on the Black-Connery wage and hour bill, yesterday asked that a 36-hour maximum week, with $5 per day minimum wage, be imposed on the oil industry.

Boren, the first member of Congress to appear before the committee, said the only effect of such a provision "would be to bring the chiseler and scalper into line. It would be the answer to the labor problem in the oil industry, where three-quarters of the industry already is on a 36-hour week basis," he stated.

The Oklahoman unsuccessfully sponsored an amendment to the Connally "hot" oil law, at hearings before the House Interstate Commerce committee in April, which would have made a 36-hour week and $5 per day minimum wage a part of that law.

Unless the 36-hour week is specified for the oil industry in the wage-hour bill, Boren asserted, competitive conditions would force the bulk of the industry, now on a 36-hour week, to go back to 40 hours.

At the same session, John D. Battle, executive secretary of the National Coal Assn., appealed to the committee to exempt the coal industry from the provisions of the bill on the ground it had earned special treatment through its voluntary establishment of short hours, high wages, and collective bargaining.

World Congress On Oil Convenes

LONDON, June 5.—The second World Congress of the petroleum industry opens in Paris June 14 and will last throughout the week. President Lebrum will attend the opening ceremony, and on June 15 there will be a banquet to 1000 persons representing all the important interests in the world's oil business.

Delegations from 30 different nations have intimated their intention to take part in the proceedings. Among these are 75 British representatives, 30 North American, 165 German, 41 Austrian, 71 Dutch, 33 Belgian, 34 Polish, 15 Italian, seven Russian and six Mexican.

The committee in charge of the organization has divided up the agenda into nearly 30 sections, dealing with technical and engineering problems, the utilization of pipelines, new methods of boring, and improvements in tank steamers.

Special sections will also be devoted to the requirements of consumers, and a co-ordinating committee will martial the resolutions and counter-resolutions on subjects which are of close common interest to both producer and consumer.

A number of interesting reports will be submitted to the congress on synthetic gasoline, as well as improved methods of refining. An extended social program has been prepared for the delegates.

The congress, in the main has been divided up into five principal sections—namely, (1) geology and boring, (2) physical chemistry and refining, (3) oilfield material, construction work and refinery machinery, (4) technique of utilization of liquid fuel, (5) economic and statistical. These five sections are being sub-divided into as many other sections as advisable.

Anti-Trust Law Change Proposed

N. P. N. News Bureau

WASHINGTON, June 14.—Amendments to the Clayton Act of 1914, anti-trust law, designed to prohibit single control of otherwise competitive corporations are contained in identical bills introduced in both houses of Congress.

The bills, introduced by Senator Guy M. Gillette and Representative Edward C. Eicher, both of Iowa, were referred to the Senate and House judiciary committees.

The bills would prohibit acquisition of control of a corporation where the "effect" would be to lessen competition as well as prohibiting control of a corporation by its competitor.

Holding Companies

The same prohibitions would be effective with regard to a "holding corporation" acquiring two or more other corporations, either where the two are in competition or where the effect would be to substantially lessen competition. No provision is made in the bill for dissolution of existing corporate set-ups such as it would prohibit establishing.

Tank Wagon Cut To Avoid Crude Raise, Is Belief

N. P. N. News Bureau

TULSA, June 12. — That the Standard Oil Co. of Indiana reduced gasoline prices in its territory in order to avert a raise in crude oil prices is asserted in a statement issued here June 11 by Charles F. Roeser, president of the Independent Petroleum Assn. of America, a nation-wide organization of producers.

Pointing out that the Indiana Standard buys more crude than it produces, the statement says this company is particularly benefited by low prices for crude oil. The statement calls the price reduction on June 9, which was of one-half to one cent, virtually throughout the 10 states in which the company markets, "damaging to the industry and unfair to the smaller producer and refiner who have been cooperating under conservation laws in an effort toward stabilization." The statement in full reads:

"I believe that the Standard Oil Co. of Indiana, in reducing gasoline prices, has precluded the possibility of the expected increase in the crude price structure; in fact, present prices of gasoline do not justify present prices of crude. This reduction in the price of gasoline comes in the face of the fact that there is now only 90 days' supply of crude in storage, compared with 100 days' supply a year ago, and gasoline stocks amount to 48 days' supply compared with 49 days' supply last year, while consumption is on the increase. It also comes in the face of increasing costs for supplies, wages and taxes.

Higher Prices Justified

"Very few companies and individuals are earning what they should out of their oil production. The statistical position of the industry, increased consumption and reduced allowables certainly justify higher levels in both crude and refined prices to absorb capital expenditures, maintaining the industry, increased wages and taxes which are being paid. I can find no good reason for the Standard of Indiana's action in decreasing gasoline prices this week. It is damaging to the industry and unfair to the smaller producer and refiner who have been cooperating under conservation laws in an effort towards stabilization. So far the public is not getting any benefit from this reduced price, for I find no instance where the dealers have reduced their price to the consumer. It is difficult to escape the conclusion that the cut was made in order to avoid a justified raise in crude prices.

"The Standard Oil Co. of Indiana buys much more crude than it produces. That company therefore is particularly benefited by low prices for crude oil. The price leadership of the Standard Oil Co. of Indiana must necessarily be followed by its competitors because of its large volume of sales in its territory. Of course, any one can cut prices, but what the industry needs is a fair leadership which will help maintain prices which are fair to all who are connected, directly or indirectly, with the industry, such as labor, the consuming public and those who have their money invested in the oil business. Certainly of first importance is a fair price for crude, making it possible to maintain the industry and meet the advanced costs of increased payrolls and taxes.

"A fair price for crude is the greatest element in stabilization, making it impossible for price cutters to undermine our gasoline market. Many are now advocating there should be a legalized regulatory body to enforce fair trade practices in the interest of the public and the industry and to prevent such illogical and unjustified price changes as is practiced by the leadership the industry now must follow."

Gulf Export Co. Formed

HOUSTON, June 11.—A consolidation of Benjamin & Co. and Rothermel, Josky & Co. here, has resulted in the formation of Gulf Petroleum Exports, Inc., to engage in the marketing and sale for export of Texas and Louisiana Gulf Coastal crudes and refined products.

Walter Josky is president of the new company. Park Benjamin, 2nd, is vice-president and and treasurer, headquarters are at 1510 Esperson Bldg.

Oil and Gas Lease Sale

WASHINGTON, June 14.—The register of the General Land office at Las Cruces, N. M., will conduct a sale in his office on June 25 to the qualified bidder on the highest bonus of an oil and gas lease embracing 160 acres in the Jackson oil and gas field in New Mexico, U. S. Department of Interior announced. Minimum acceptable bid has been fixed at $25 per acre.

Dealers Helped, Refiners Hit Thru June 9 Tank Wagon Cut

By L. D. McGUAN

CHICAGO, June 12.—A book could be written about the oil industry's reaction to the June 9 reduction of 0.5 to 1 cent in gasoline tank wagon prices and prices to dealers by Standard Oil Co. of Indiana throughout its territory.

The announcement issued by the company came as a complete surprise, being preceded only by vague rumors earlier in the day. It read:

"Effective Wednesday, June 9, Standard Oil Co. of Indiana will reduce normal tank-wagon markets and prices to dealers on all grades of gasoline one-half cent a gallon in Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, the Dakotas and upper Michigan.

"There will be a further reduction of one-half cent in the normal price of third grade gasoline to dealers, giving them a total reduction of one cent on that grade. In lower Michigan the only reduction will be that of one-half cent a gallon in the price of third grade to dealers.

"Where prices are already below normal by the amount of the contemplated reduction, or more, no change will be made.

"The reduction in prices is to meet competitive conditions".

To Meet Competition

To say that the industry was unsettled by these four short paragraphs is to put it mildly. The change was so unexpected, especially when considered in the light of the current statistical position of gasoline, that executives of other oil companies had little to say at the time.

While blame for the reduction was placed at the door of that illusive cause of most of the industry's troubles, "competition", refinery executives and jobbers here were at a loss to understand the "reason for the cut", as they expressed it.

Three Effects

The immediate effects of the June 9 reduction by the Indiana Standard company were threefold.

First, it decreased by 0.5 cent per gallon the netback to refiners on gasoline supplied to marginal contract jobbers.

Second, it increased the gross margin to jobbers to 4 cents per gallon.

Third, it placed the contract price for gasoline 0.5 cent below the open market.

The majority of refiners' supply contracts carry a marginal guarantee of 2 cents under normal prices to dealers, or a total spread of 6 cents for jobber and dealer, against 5.50 cents formerly — the extra 0.5 cent coming out of the pocket of the refiner.

The 0.5 cent reduction in refinery netback came at a time when the industry had been expecting an advance in crude oil prices. Also, refiners and the oil trade generally had been expecting higher wholesale and retail prices.

Long Dealer Margin

In the face of many leaders of the industry decrying long dealer margins and spotty retail conditions due to rebating and price cutting, the actual effect of the reduction in tank wagon markets was to increase dealers' gross margin to 4 cents a gallon on regular and premium. Dealers — outside the metropolitan area of Chicago where the normal margin had been 4 cents — had been operating on a gross of 3.5 cents. However, in some instances dealers had benefited by two previous 0.3-cent reductions in price and had increased local margins to 4.1 cents. If they do not pass on the June 9 reduction to the consumer, their net margin will run as high as 4.6 cents in some sections of the territory — 5 and 5.1 cents in Chicago.

With the contract price for gasoline nearly 0.5 cent lower than open market quotations, refiners who move their production in the spot market, as well as resellers who sell only to open market buyers, face the possible loss of their markets unless tank car market prices recede proportionately.

Many traders feared that open market buyers could and would buy more advantageously by tank wagon from jobbers with marginal contracts, since prices to contract jobbers are lower than in the open market. This situation is not without precedent, a similar condition was apparent some time ago when the contract price dropped below open market quotations.

Conditions, therefore, present a paradoxical picture, with the balance of power now centered in crude.

Refiners purchasing all or most of their crude supply and shipping in tank car are having to meet lower prices from jobbers, and at the same time they are faced with a cost of raw material which makes realization from the finished product a net loss on each gallon of gasoline, they claim.

Charge Account Customer Policy Set by Standard

N. P. N. News Bureau

CLEVELAND, June 14. — A question of whether gasoline would be retailed to charge customers at the dealer's price or the company's price was evidently settled today, when dealers had acknowledged a letter detailing the policy on charge accounts of the Standard Oil Co. of Ohio.

"If the dealer honors a courtesy card (charge account)," A. A. Stambaugh, sales manager of Standard of Ohio, said, "and asks us to buy the account (assigns it to us), we have a right to stipulate at what price we will buy that account.

"We take the risk of not collecting the money. If the dealer wishes to carry account on his own books, he can charge any price he likes."

A differential between the price at Sohio stations operated by independent dealers and lessees and the price at company operated stations gave rise to the charge account problem.

Same Brand at 2 Prices

The independents and the lessees in greater Cleveland three weeks ago raised their price on regular gasoline to 19.5 cents to allow themselves a four-cent margin, while company stations continued to post 19 cents. Courtesy card customers, as well as others, found themselves paying two prices for the same gasoline.

Lessees and independents, by virtue of their independent status from the supplying company, made out charge account slips at 19.5 cents. These were presented to tank truck drivers for credit on the dealers' tank wagon bill.

Standard of Ohio instructed drivers not to accept the slips at any price but 19 cents, officials said, since it was buying the account from the dealer. Youngstown dealers, where a similar differential exists, were reported by the Pump Handle, official paper of the independents, as making out the slips for more gasoline than was actually sold, with the connivance of the customer.

Dealers said the effect of the company policy was to give their charge customers gasoline at one-half cent less than price to cash customers. One also expressed fear that his charge customers would broadcast the price at which they were obtaining gasoline, with resulting complaints from cash customers.

Leaded Gasoline Gains In 3-Year Period

N. P. N. News Bureau

CLEVELAND, June 14.—A steady rise in the percentage of leaded antiknock gasoline used by American motorists, at the expense of unleaded regular and third grade fuels, is reported by Ethyl Gasoline Corp. as a result of a nationwide survey. A parallel trend in compression ratios of automobile engines is noted.

Sales of gasolines with antiknock ratings above 76 climbed from 558,900,000 gallons in 1934 to 622,700,000 gallons in 1935 and to 783,300,000 gallons in 1936. Engine compression ratio averages for the same years were 5.72, 5.99, and 6.19 respectively, it is indicated.

Leaded regular gasoline, rated at 70 octane number, increased in gallonage from 10,139,600,000 to 12,580,500,000 in the same three-year period, while total consumption of unleaded fuel of both the regular and the third grades declined 4%.

Quota Discussed For Wilmington

N. P. N. News Bureau

LOS ANGELES, June 11.—Independent producers in the Wilmington townlot oil field this week attended a series of meetings to face the problems of too much oil for which there is no market; lack of a posted price, and lack of transportation —except by truck. A list of recent and prospective oil well completions further complicated the situation.

As of June 1, some 110 wells had been completed, with a combined potential production of 66,000 barrels. By June 8, another 15 wells were bought in for a potential of about 8800 barrels daily and some producers said that the potential would exceed 100,000 barrels a day within the next 60 days.

Railway Holdings

The situation was eased somewhat when Union Pacific Railroad Co.'s oil operating division and General Petroleum Corp. effected arrangements for limiting output from acreage holdings in the southern section of the field.

However, this controlled area is not a factor in the curtailment problems facing the Wilmington townlot field. The crux is in the hands of the operators in the townlot portion of the field along the northern flank. For the first 10 days of June the field produced an average of 43,758 barrels daily, of which 25,259 barrels was produced by the townlot operators.

In the quota of 603,900 barrels set by the Central Committee of California oil producers for June, Wilmington was given an allowable of 19,010 barrels daily, which means that this field is currently responsible for nearly 25,000 barrels a day of the state's overproduction. Total output for the state on June 10 was 663,461 barrels, or 60,000 barrels in excess.

The large number of new completions at Wilmington has severely taxed the curtailment program since the quota reserve for assignment to new wells is not sufficient to provide for this flood of oil. To increase the quota reservation would mean further reductions in the quotas of other fields in the state, many of which are already complaining of the curtailment load they carry.

Pipeline, Posted Price

Overproduction at this newest Los Angeles Basin field is held responsible for the failure of purchasing companies to put a pipeline into the area and to post a price. At the recent gatherings a tentative production arrangement was discussed for the field which would establish a quota of 24,000 barrels daily. A special committee, which had been appointed by producers to work out an acceptable plan for curtailment of the field, estimated the potential production was 66,000 barrels, but that the normal producing capacity was 48,000 barrels.

The 24,000-barrel quota, on this basis, would mean 50 per cent curtailment of the productive capacity. The committee recommended that no well in the field should be allowed a production in excess of 400 barrels daily and that the minimum limit should be 50 barrels a day, but that between 100 and 800 barrels of productive capacity per day the 50 per cent factor would apply. No action was taken.

Lack of storage or a market will force curtailment, it was said. Current price for the oil in this field is 60 cents a barrel, with some production available at a lower figure.

Broadcast Yale Games

NEW YORK, June 14.—Radio broadcasting rights for home games of the Yale football team this fall have been purchased by Socony-Vacuum Oil Co., it announced today. Last fall was the first time Yale had permitted commercially sponsored broadcasts of its games. The broadcasts will go over the Yankee network in New England and through station WMCA in New York City. Station W-1-XAI also will broadcast the games via short wave from Boston.

Sustain Dealer In Bringing Suit

N. P. N. News Bureau

LOS ANGELES, June 12

Efforts to test application of California's fair trade act in the marketing of petroleum products took another step forward last week, when a Los Angeles superior court denied a demurrer entered by defense counsel for a service station operator accused of violating the statute.

The defendant in this case is a reseller in Ocean Park, who is charged with selling Richfield Oil Corp.'s "Q" gasoline—Hi Octane brand—at less than the retail price designated by the company in its dealer commission contracts.

Richfield is not involved in the action. The complaint was filed by another dealer handling the company's products and sponsored by the Retail Petroleum Dealers Assn. on the basis that price cutting by the defendant was damaging to the business of ethical distributors and therefore actionable under provisions of the fair trade act.

The court took under consideration for several days the defense plea that the manufacturer, or owner of the trade-mark —Richfield in this case—was the only party entitled to bring the action.

In denying this plea, the court upheld the argument of J. H. Dasteel, counsel for the retail dealers' association, to the effect that one section of the California act provides that a violation of its provision is unfair competition and is actionable at the suit of any person damaged thereby.

The ruling is important in that, for the first time, the right is established for any independent dealer, handling a branded gasoline on which the retail price has been set by the manufacturer, to bring suit in his own name as a means of protecting his business and margin of profit against cut price artists.

The defendants have ten days in which to answer charges contained in the complaint. This means that by June 20th a trial date will be set and this test case will be fully launched for its travels through the courts. Some observers predict the course will be short and easy and that California will end up with an effective means of preventing under-canopy cutting and other unstabilizing marketing practices in the petroleum industry.

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A New "Racket" Comes To The Oil Industry

By WARREN C. PLATT, Editor

Oil marketing seems at last to have started under government control.

The start appears only to be good business and a plain common sense admonition to which no one should object, any more than they should object to the law against murder.

But where will it end?

While the state forbids murder we have not yet suffered legislation appointing a policeman for each one of us to keep us from committing that crime though it is still committed. This oversight is probably because that would be too great an intrusion of our "rights" as citizens but, more particularly, because there is no "other fellow" to assess the great cost on.

But when government undertakes to specify what business should and should not do in these days of assessing costs on business, that may be an entirely different story from forbidding murder?

Our office holders, as has been demonstrated many, many times, just dote on regulating business especially so long as business can be made to pay for the cost of the regulation and so long as it calls for an army of regulators.

In Pennsylvania and Iowa today we have new laws requiring among other things, the posting of the price at the pump at which gasoline is to be sold. Such a law is also being considered by the Illinois state legislature. In addition to selling only at the posted price, the Pennsylvania law forbids selling gasoline except when one has obtained a license from the state. Also one is forbidden to give away premiums.

The oil industry, through associations and their committees, through the recent code and through these editorial columns of NATIONAL PETROLEUM NEWS, has long been urged to adopt the posting of the actual sales price and to refuse to sell at any other than such posted price. NATIONAL PETROLEUM NEWS and a few far seeing refiners for years have urged such practice in regard to the tank car market. There has never been objection seriously raised to the recommendation.

However, posting one's price and sticking to it as a matter of good business, and doing it under threat of government depriving you of your right to do business, are two entirely different things. The latter puts government—of the states in this case—into the oil business. The first keeps government out.

The catch in this mandatory price posting is in the enforcement of it by government. If the law is not or cannot be enforced it is useless. The public—our gasoline customers—certainly are not going to look upon a dealer's failing to stick by the price-posting law as a very serious offense. In fact, the customer is quite likely to be entirely willing to co-operate with a gasoline vendor in violating the law. The public will see in a violation of that law a cheaper price which is a benefit to itself and it—the public—never will be able to see any long-time benefit from the argument that what helps to keep an industry free of cut prices is good for the whole United States. That is too far away with the rainbows.

The law on price posting is quite likely soon to go the way of our late liquor prohibition law, which was respected by the majority only in its violation. Certainly there were plenty of moral and physical reasons in the prohibition law that warranted public and individual support for it. But those reasons are entirely lacking in support of any gasoline price posting law.

How is the price posting law going to be enforced?

The police department, or maybe the sheriff's office, you say?

If you believe that you do not know police officers or sheriff's deputies. Perhaps for a short while police may concern themselves with whether Tony is sticking to the price posted on his pump but it is a cinch the "cop on the beat" is not going to put in much of his time hidding around Tony's place to get the evidence, or accost his own good friends who derive benefit from the evidence. Besides taking Tony into court with "evidence" of price cutting is going to be a lot different than hoisting Tony, drunk, into a patrol wagon and exhibiting him as evidence of intoxication. The intoxication charge is disposed of in a couple of minutes by the court and there is little back fire because there is Tony still drunk before "his honor." The cop is out and back home and in bed to make up for lost sleep in no time.

But bringing in Tony as a price cutter is going to be something different. A warrant will have to be sworn out after the "evidence" has been presented to the police prosecutor, and maybe he will not be greatly impressed, so the law enforcing cop will have to go forth again for more "evidence." Then, when Tony's day in court comes, he will have a lawyer present who may point to alleged "contracts" and "agreements" and a lot of other reasons why Tony was entitled to seemingly "cut" the posted price.

And any way what of it? Tony was only trying to help out a poor friend and he won't do it again. Is the judge going to send Tony to jail for a year or soak him a $5000 fine as one state says? No, Tony will be forgiven and the judge may stop by Tony's station to make sure that Tony has not backslid and, incidentally to get a sample of that good gasoline of Tony's, for which he probably will not be asked to pay in hard money.

There isn't going to be any more public indignation about Tony selling gasoline at a cut price than there was at his selling bootleg liquor, providing of course the gasoline is no worse than the liquor was.

Well, then, you may say, the price cutter's competitors will enforce the law. To which we ask, have you ever sworn to an affidavit upon which a warrant for a person's arrest has been issued? Do you realize how many times cases have not been made by the plaintiff and what happens to that unfortunate person if the ex-defendant thinks to bring suit for false arrest? Well it happens many times and if you have a good lawyer it is safe to say he will never let you sign such an affidavit no matter how much Tony may cut the price against you.

There are two types of persons who will be very much interested in your troubles with the violator of the price cutting laws, however, and undoubtedly they will both come quickly to your assistance—for a price.

The first are the racketeer type which seems to be edging

into the marketing of petroleum products in some parts. These individuals have been "wrecking" pumps and "lining up" dealers with black eyes and bruised heads, for some years now—all to the end that their "association" may have a "100% membership" or the "union" be a "good influence." The price posting laws will be of great help to the racketeers in the cities and more thickly populated areas, especially where there is a large percentage of foreign born such as one finds in Pennsylvania for instance. But out in the rest of America if the racketeer bothers much, he probably will find a good Winchester rifle such as the writer, when hunting the toilet, saw in an Illinois station not long ago. That rifle spoke words of the purposes of that station owner, without its ever being taken from its closet.

The next class who will gladly come to the rescue of the disturbed oil man and aid him in maintaining the price posting law, is the political office holder. He will do the job and gladly, provided, of course, that the fees per station are high enough, or the special tax which probably will be levied on gasoline, is big enough to bring in sufficient salary for an "inspector," say to every 250 or so stations. There will undoubtedly be a lot of "gathering of evidence" by such "inspectors" but, after the necessary $5 or $10 bill has been placed where it will do the most good, or a few gallons of gasoline distributed to the "inspector" and his family, not very much of that "evidence" will ever get to court.

Most oil men of today seem to have forgotten all about the beginnings of the old "oil inspection" days of kerosine and then gasoline. They even seem to have forgotten about the early days, not many years ago, of the start of the gasoline tax. Back 15 and 20 and more years ago to be the chief oil inspector of a big kerosine consuming state was to draw down some $50,000 to $75,000 or more a year. How much the "inspector" kept of this was a question. Ohio's tax became so lucrative that the job was split and two chief "inspectors" pocketed some $25,000 to $30,000 and more a year each. Up in Chicago, until not many years ago, we believe, there was a Cook County "inspector" who picked up a reported $50,000 or more a year.

These "inspectors" and their scores and even hundreds of deputies, were supposed to see that no volatile kerosine was sold. The "inspection" in those days was a joke. An oil man could get anything passed for a few kind words, a vote or a few dollars. Generally the "inspector" didn't care what was passed so long as he got his fee. The kerosine was safe anyway. As the consumption of kerosine declined these "inspectors" sought to include gasoline in their "tests." Some times they would even drop a hydrometer into the gasoline.

By hard work the oil industry cleaned this racket up until today such inspections as we have are at least well intentioned and honestly administered, even if the laws themselves are a bit cockeyed.

Next the industry suffered all the crookedness in the non-enforcement of the new gasoline taxes. Most of our readers easily can recall the wholesale downright crookedness that tainted their early administration. Criminal trials are still going on in Tennessee, where a gang even elected their own public officials to better beat the gasoline tax. With all due respect to our political friends it is taking quite a great deal of oil industry money and the full time of many paid men and the time of many thousands of public spirited oil men on the country's American Petroleum Industries Committees to keep the gasoline taxes fairly well collected.

Now, despite all this experience with the political office-holders and regardless of there being some ten million men—so says the Roosevelt administration—"unemployed" and anxious to get on an easy payroll, some people in the oil industry are asking these laws for price posting.

There are only two classes of people who are going to be benefited by these laws, we believe. They are the racketeers and the political job holders who will come around and "inspect" the prices and "test" the station attendants for their "honesty."

Nothing else will be accomplished but the public and the industry will pay well for it all.

E. Texas "Hot" Oil Rumor Dies When Connally Law Is Extended

By LAWRENCE E. SMITH

TULSA, June 14

This has been a week wherein rumor ran riot. We began in a small way, with an ant-hill, puffed it up into Pelion and then piled Ossa on top of it. The whole thing stood as high as Pike's Peak but glaciation had set in and the mass was soon to be back to ant-hill proportions as the week ended.

It all had to do with the Connally law and East Texas. It looked as though Congress would fuss around about its extension too long and that June 16 would arrive with no statute in effect — the 1935 law carried that expiration date. With no federal authority on the job to prevent it, vast quantity of "hot" oil would move into the channels, arteries and semi-circular canals of interstate commerce, was the rumor.

The movement would amount to millions of barrels — maybe billions. All of that "hot" oil that the state has impounded in East Texas would be moved and a great deal more which would come from the wells, opened wide to do their stuff as in the days of old.

Then the tale grew and actually found its way into the newspapers and part of the report was that there was a great concentration of tank cars in East Texas all set to go the minute the Connally law became defunct.

Well, it all didn't happen. Congress finished its wrangling over the extension resolution and the Connally law goes marching on for another two years. The Federal Tender Board is still in business, eyeing the legality of oil and products that move from East Texas. There was no massing of the tank cars.

State Authority Sufficient

Likely it wouldn't have bothered the industry much if there had been a delay in getting the Connally law through on time. The state has the authority to regulate shipments of all kinds, intra-or inter-state. It hasn't exercised the authority as to interstate movement, leaving that job to the federal board but there is no doubt that it can do it. It makes the work much easier all around to have the federal authority bossing that end but any recess in federal activity would be bridged over by the state.

And there isn't much available oil in East Texas. If we understand correctly what the operators have told us, there is no desire to produce at a greater rate than that which has prevailed for many months. The field is in good shape and most of the wells flow their oil because of the slow rate of production per well. So long as they take 20 to 23 barrels daily from a well it will flow. To increase this materially would cause a rapid reduction in bottom hole pressure and hasten water encroachment. That isn't guesswork. Records of the Texas Railroad Commission hearings are filled with the testimony of experts on this point, backed by data on field tests.

"Frozen Hot" Oil

So, eliminating the possibility of substantial overproduction, there remains the impounded oil in the field, paradoxically known as "frozen hot" oil. This material has been in the field for varying periods but practically all of it has been denied clearance for shipment for well over two years. The total amount shown in records of the railroad commission is 2,960,436 barrels, of which 1,513,732 barrels are in open, earthen storage and 1,446,704 barrels in steel tanks. However, of the steel storage class, 308,076 barrels have been confiscated and sold or tied up in suits, leaving 1,138,628 barrels available for confiscation. The greater part of this is involved in suits filed by the attorney general asking the courts to confiscate it and order it sold by the sheriff from the front steps of the courthouse in the county where it is located.

Thus, little of the impounded oil would be available for the big movement that was rumored. The stuff in pits isn't attractive. Chiefly it is fuel oil and most of it is 20 to 25° A. P. I. gravity. The pits contain much water and sediment, although the figure given above is the commission's measurement of net oil.

Impounded Oil Survey

All the pits were surveyed more than a year ago. It is difficult to measure a pit as it varies in depth and is of irregular shape. Soundings were made, pits were cross-sectioned and oil-water contact levels were established as nearly correctly as engineers could make them. Bench marks were then established and pits have been inspected regularly ever since to

make certain that nothing was added or taken away. The steel storage, of course, was an easier matter to measure. There is a trifling amount of gas oil and fuel oil in the grand total but most of it is crude, some described as weathered, and ranging from 30 to 40 gravity. The tank connections are sealed and inspections are made frequently.

Oil Will Stay "As Is"

The prospect is that this stored oil will stay where it is until auctioned off. Even then it can move only within the state, as the Federal Tender Board has always refused to clear that which has been sold under previous court orders. The federal board takes the position that the Connally law prohibits the movement of oil produced in excess of allowable production as fixed by the state and that nothing the state does by way of removing the blemish can serve to change the statutory prohibition. In this position the board has been backed up by federal court decisions.

All this discussion was prompted by the week's crop of rumors. It is true that a kinsman of a highly placed politician did inquire about the stored oil a few weeks ago, but the state official who was asked gave the facts speedily and the questioner's curiosity was ended. This was but one of many inquiries that have been made about clearance of the oil and, from time to time, there are rumors of gigantic schemes to move the oil. Any scheme would call for the aid of all the federal and state people who have watched the oil up to now and that couldn't happen.

Our guess is that the oil will stay where it is until the state sells it and then it could move only within the state, unless the President should haul off and make a finding that the Connally law's operation should be suspended. There is a provision in the law that authorizes him to do that for the purpose of augmenting the supply to meet consumer demand, when supply becomes restricted. Such suspension would be a "natural phony" right now, with proration authorities hard pressed to keep production from running away with the show.

Correction

In an article on page 25 of the June 2nd issue of NATIONAL PETROLEUM NEWS, the statement was made that a "favorable" report had been filed on the chain store bill by a house committee of the South Carolina legislature. This was incorrect, the bill receiving an unfavorable report in the house committee.

THE *Midwest* MARKETER

BY E. L. BARRINGER, N. P. N. CHICAGO NEWS BUREAU

CHICAGO, June 14

Milwaukee once more takes the spotlight as the home of a local oil marketer merchandising a premium grade motor fuel. This time it is W. R. Pate's Pate Oil Co. guaranteeing greater mileage and offering a refund if the claim is not substantiated in the customer's automobile.

Pate's offer is on a premium fuel, sold under the brand name "Challenge" by dealers. The offer is to use the motor fuel for a stated period, then if definite improvement in mileage is not obtained the company will refund the difference between the price of "Challenge" and regular grade gasoline.

A decade and more ago Milwaukee was noted as a stronghold of independent oil men. These individuals marketed their own brands, up to their own specifications and made competition like it. This was before the days of standardized gasolines, so jobbers did a lot of blending and some rerunning of heavy ends to produce what they claimed was a superior grade of motor fuel. The jobber with a better motor fuel knew it, advertised it as such, and asked and received a higher price.

These older companies with their shrewd marketing policies have passed on, but evidently the spirit of merchandising gasoline on quality at a higher price persists. Pate, who is carrying on the tradition, was with the former Lindsay-McMillan Co. After Lindsay-McMillan passed to Cities Service, Pate organized his own company, marketing motor fuel to dealers and commercial accounts, and compounding lubricants. Pate has a technical background and has approached gasoline merchandising from this angle.

* * *

News Supplies Text

News has become the current favorite in reading and the trend of linking advertising with a timely subject has crept into oil marketing. Other industries, notably textiles, have long cashed in on some news event as determining styles or sales policies and now the idea is catching on with major and local oil companies.

At this season of the year baseball is a prime favorite and every afternoon the air is full of broadcasts of the games sponsored by an oil company. Reports indicate this is an exceptionally fine type of radio advertising. One major oil company is running a contest featuring a former idol of the game. Last fall the college football player rushed into the game to die for Alma Mater and somebody or other's gasoline brand.

The candid camera craze lends itself to service station advertising, and one Iowa dealer found a way to link this with his station. Details will be in a story in a forthcoming issue of NATIONAL PETROLEUM NEWS.

* * *

Add Insult to Injury

Some day the oil industry is going to get wise to being pushed around by the politicians in this business of collecting the gasoline tax for the state and putting up its own bonds to boot.

There has been some grumbling about this bond business and as the sales tax idea spreads there may be considerable more.

After all the oil companies have a considerable investment in bulk plants, service stations and trucks to guarantee that the pennies they shake out of the gasoline customers will be paid when due to the state. An oil company would look silly bundling its tangible property under an arm and sneaking out of the state at night, leaving the state holding the sack on the tax collected during the month from the customers.

On real estate and personal property taxes the state does its own collecting. And what a roar would go up from the dear people if the politicians slapped a bond, the property owner paying the premium, to insure payment of the tax. Oh no, not that, let the people pay the tax and if they don't the state will go to a lot of legal bother to collect its money.

The sales tax makes the gasoline tax bond all the more peculiar. The percentage on the sales tax is small pickings compared to the hefty levy on gasoline, but for every oil man there are hundreds of retailers that have to collect and pay in on the sales tax. And in the state without a prepaid sales tax this is done without the retailer having to put up a bond.

The oil man, loaded with tangible property that the sheriff could easily seize, has to pony up a bond, usually in an amount twice that of the average monthly gasoline tax payment. Yet the retailer, no matter how small his business that could be closed out over night, collects amounts up to 3 per cent on each purchase without posting any bond to guarantee performance under the tax act.

There is plenty of room for argument over whether gratis tax collectors ought to post a bond for performance of duty. But if one group of business men have to work under a bond why not the same regulations for all business men?

Indiana Ass'n. to File Weight Complaint

N. P. N. News Bureau

INDIANAPOLIS, June 14. — A complaint asking for a decrease in the poundage weight of gasoline as estimated by railroads will be filed with the Interstate Commerce Commission by the Indiana Independent Petroleum Ass'n., officers of the association said.

The association takes the position that the estimated weight of 6.6 pounds per gallon, which railroads have been using for years in computing freight rate charges, is obsolete and not in fair relation to the actual weight of gasoline as it is today, and thereby joins complaints headed by Tankar Gas, Inc., of Minneapolis.

The charge on the present weight basis, the association said, is unfair and discriminatory, not to mention illegal, and therefore the commission should authorize an adjustment.

A committee consisting of O. B. Perine, Perine Oil Refining Co., Russell S. Williams, Gaseteria, Inc., and C. E. Foreman, Mid-Western Petroleum Corp., all of Indianapolis, is now preparing the complaint to be filed with the commission.

ENID, Okla., June 14.—Construction of a new cracking unit at the Champlin Refining Co.'s plant here is nearing completion. The towers have been erected and most of the connections made, and the Alcorn furnace will be completed within the next few days.

Oil's Labor Not Commodity Penna. Grade Members Told

ON BOARD S. S. SEEANDBEE, June 12.—Forsaking its usual convention spot at State College, Pa., the Pennsylvania Grade Crude Oil Assn. this year held its 14th annual meeting aboard the S. S. Seeandbee June 10-12, on a cruise from Buffalo through Lake Erie and Lake St. Clair, and into Lake Huron and return.

Approximately 200 members of the association and their families were on board the chartered ship, and in spite of the many attractions of ship life, such as, inviting deck chairs, sun decks, picturesque shore line scenery, slot machines, keno, 'horse' races, and so on, business sessions in the ballroom on the promenade deck of the 500-foot ship, held principal attention.

Labor trouble remedies, taxes, merchandising, bearing lubrication, the jobber's viewpoint, and new secondary production methods, were among the wide variety of subjects covered by the speakers.

In giving his "Annual Look Ahead," T. P. Thompson, Jr., president of the association, urged that the Pennsylvania region make every effort to continue its harmonious employer-employe relationships and that "every logical and legal influence" be used to prevent discord.

Owner's Responsibility

Thompson said that the job of protecting the integrity of employe relationships belongs individually to each "responsible owner or manager," and that it cannot be performed by any association or combination of employers.

"It can only be achieved by the establishment and maintenance of a fair and just policy of co-operation in which the workman in the refinery or on the production property is able to meet on common terms the man who pays him his wages," he commented.

The quickest way to invite an industrial disturbance in the Pennsylvania oil industry, according to Thompson, would be to regard labor as a commodity rather than as a group of individualized personalities.

"Conversely," said Thompson, "the surest protection you can have against disturbance is to provide the strongest assurance in your power that the men will be secure in their jobs; to provide the quickest and simplest possible procedures for the hearing and adjustment of grievances; to not only inform your men on the present state of your business but to show them where you are headed and what ambitions you have for the institution in which you have jointly invested your careers; to discard a paternal disposition to do things for them, in favor of a fraternal disposition to work out plans with them; and, finally, to base your policy on the conviction that shareholders, management and employes benefit most from regularity of production and continuity of employment."

New In Detroit

One of the high lights of the business sessions was a paper, "What Detroit Is Doing," given by Henry M. Rugg, an automotive engineer and a member of the association's staff. Oddly enough, Rugg read his paper just as the boat was passing Detroit on its return trip to Buffalo.

Rugg discussed many automotive developments and rumors currently prevalent in Detroit. He mentioned, for example, that "there are persistent rumors from fairly reliable sources" that Ford, instead of having one body size with a choice of a 60 or 85-horsepower engine, will next year have two body sizes, one for the smaller engine, and a larger one for the 85 engine.

Rugg stated that he had heard on good authority that the new automatic transmission introduced recently as optional equipment on the Oldsmobile Eight (see NATIONAL PETROLEUM NEWS, June 9 issue, for details), will also be offered optionally on all General Motors cars, except Chevrolet, for 1938.

Rugg said that while indications pointed to the coming of the rear engine car, "it has not reached anything like the production stage as yet." He predicted that, until labor troubles quiet down, some of the contemplated developments of car manufacturers will be materially delayed.

Hypoids Successful

Rugg looked at the hypoid situation optimistically, saying that the anticipated flood of troubles on hypoid rear axles had failed to materialize. He said that axle manufacturers have been improving the rigidity of the bearing mountings with ample size bearings, properly supported and tied together, to prevent misalignment. Rugg stated that many of the hypoid gears are preloaded in assembly and that there is a trend toward designs in which the original factory adjustment cannot be easily changed, thus precluding the possibility of tampering by the "backyard mechanic."

"Greater accuracy in producing gears, improved surface finish, the design of more rigid carriers, and superior control of the tooth bearing shape, all serve to increase the carrying capacity of the gears and tend to decrease the necessary E. P. value of the lubricant," according to Rugg.

In discussing crankcase sludging and ring-sticking in diesel engines, Rugg stated that "the study of combustion conditions clearly indicates that grade and condition of fuel, design of fuel injection system, and engine, piston and ring design, have probably more effect upon the lubrication difficulties than the oil itself."

Rugg urged the Pennsylvania refiners to use great caution in employing additives in lubricating oils, pointing to serious corrosion and excessive wear resulting from attempts to increase oiliness. He stated that much more study is needed on this subject, "as even some of the standard laboratory physical tests are thrown out of line when an additive is mixed with an oil."

Controlled Ignition Engine

Mention was made by Rugg of tests being made in Detroit on a car having a "controlled ignition" type of engine, similar to the diesel. In this engine, sleeve valves are used to control the intake of air and the exhaust of combustion products, according to Rugg, and the fuel is injected under pressure and ignited by an electric spark. He stated that, on road tests, this engine has shown a fuel economy record of 30 to 35 miles per gallon in a car of a size and weight approximating that of a Packard 120. It was stated that a large number of these units are now being built to be put under test in various parts of the country.

Bearing Lubrication

Viscosity is the most important single property that can be selected to gauge lubrication performance, according to Prof. H. A. Everett, of Pennsylvania State College, in his address on bearing lubrication.

"As long as oils for lubricating engines are selected on the basis of their properties, determined in the fresh or unused state, and at conditions widely divergent from those actually encountered," commented Prof. Everett, "it is axiomatic that the oil whose property in service departs least from the original specifications possesses an advantage over the other oils."

In discussing the term "film strength" of an oil, Prof. Everett said that actually it is used to explain the ability of a film of oil to withstand heavy loads or bearing pressures without breaking down entirely and allowing metal-to-metal contact.

"Differences in this respect are not due to any membrane-like quality of an oil," he said, "but, according to best present day knowledge, are attributable mainly to anti-welding properties of the oil or chemical changes caused by the oil which affect the character of the metallic rubbing surfaces. In brief, we find no legitimate authorization for the term 'film strength' used in lubrication phenomena and possibly a slightly rational reason for the existence of the term 'oiliness.'"

Prof. Everett stated that it is quite apparent that much of the difference now found by laboratory test machines and classed as oiliness difference, is in most part only difference in true viscosity.

Production Methods

"New Developments in Pennsylvania's Oil Production," was the title of a paper by W. Floyd Clinger, Clinger Oil & Gas Co., who reviewed production methods in the Pennsylvania fields. Clinger stated that several new methods are now under experiment in which heat is applied to the oil sands in order to thin the oil and allow it to release itself from the oil sands more easily. Pressure is then applied to move the oil toward the production well.

According to Clinger, attempts have been made to use steam and steam heated air, and one method involves the lowering of electric heating elements into the sand and pumping of air at high pressures into the hole so that it will be heated to great temperatures and forced through the sands toward the production well.

Still another experimenter, according to Clinger, expects to use the input well hole as a great combustion chamber, firing a gas and air mixture with a continuous spark, and thus by pressure transport the heat to the sand all the way from the pressure well to the oil well.

"The operators who are experimenting with these methods realize that there is danger of explosion so that the heating process must be closely controlled," Clinger pointed out. "They realize that there will be corrosion of tubing—we may be using brass or copper one of these days. And there may be products of combustion which must be accounted for. The oil may be cracked or the sand fused."

"But," concluded Clinger, "if far-sighted engineers can foresee these obstacles, they may also surmount them."

Victor H. Scales, director of publicity for the American Petroleum Institute, in his address on "Contended Cows and Tax

Goats," urged that the cost of taxes, and the effect of taxes upon business, be clearly revealed in annual reports and statements. He pointed out that the comparison between taxes and payrolls, between tax outgo and sales income, and between tax payments and dividend payments, offer an "opportunity to answer those who assert that the petroleum industry is profiting unduly and should be more heavily taxed."

Scales said that it should not be difficult to convince the average individual that more money would be left in his pockets were tax rates on petroleum products reduced. For, said Scales, the average motorist works two weeks out of every year just to earn enough money to pay his automotive taxes, and of that tax-work period, 12 days are spent earning enough money to pay taxes on gasoline.

Scales said that every business man should make a thorough analysis of the taxes imposed upon his business and of their effect upon it. He also urged that oil men make certain that their customers know the cost of taxes they pay upon the petroleum products they buy

"To this end," said Scales, "whenever and wherever prices are posted, taxes should be posted also. That means that every gasoline pump; every oil pump; every bill, voucher, and statement; every advertisement of prices, and every quotation should indicate unmistakably, first, the price; second, the taxes imposed; and third, the cost, which is price plus taxes."

Jobber's Viewpoint

Charles F. Block, a jobber and head of the Owl Oil & Supply Co., Union City, N. J., spoke on "The Jobber's Job from the Jobber's Viewpoint."

"Having a complete knowledge of your entire line, as well as a fair knowledge of kindred lines that your customers deal in, is one of the strongest points in favor of good service," commented Block.

He emphasized that now, as never before, it is essential that "your men and yourselves have a comprehensive knowledge of the constant developments in the automotive industry," and that the only way to get that knowledge is by training.

To this end, Block suggested holding regular organization meetings to discuss the latest developments in the fields that affect the company's business so as to "prepare your men to answer readily, and help solve, your customers' problems."

"The use of illustrations to describe a new gear or bearing is very helpful," said Block. "It imprints upon the mind the things that such contrivances must do and helps to visualize the kind of lubricant required. Take the hypoid gears, for example. There seems to be no end of the discussion from the technologists. Yet, I feel there are some who would greatly benefit from knowing what a hypoid gear looks like, what its function is and why only a certain type lubricant is best. A service that includes the understanding of systematizing our customer's business, with a view to save time and obtaining more business for that customer, will indeed pay splendid dividends."

"Service has an unlimited area," concluded Block, "and the jobber is in the best possible position to help the dealer because he has frequent contact with him. The appreciation of such services, when really valuable, will overcome the competitor's price proposals, and keep both gallonage and price at a proper level."

Three-Point Program

Ray Vir Den, vice president of Lennen & Mitchell, Inc., New York advertising agency, offered three "essential" points for properly merchandising Pennsylvania oils. His three-point program follows:

(1) The maintenance of a stable price structure, because "a stable price is the living evidence of the refiner's, jobber's or dealer's conviction of quality."

(2) Make every effort to promote the quality reputation of 100 per cent Pennsylvania motor oil, to establish the emblem as the mark of quality, and to impress everyone from the producer to the ultimate consumer that association with quality is a desirable asset.

(3) The fullest co-operation of all concerned, a point that can only be realized when the first two objectives are achieved.

Vir Den said that one of the biggest jobs before the Pennsylvania Grade Crude Oil Assn. today "is to merchandise the association emblem and what it stands for."

Taking his customary place as the final spaker at the associations annual meetings, Fayette B. Dow, vice president and general counsel of the association, urged the members to make an effort to direct their appeals to the legislature instead of to the courts in the future. He also stated that the Federal Trade Commission has recognized the association and its emblem, as proved by recent decisions in the courts.

At the convention's business session, W. J. Healy, Healy Petroleum Corp., Bradford, Pa., was elected a director of the association to replace Earl Emery, of the Minard Run Oil Co., Bradford. Healy was the only new director elected.

Dixie Refining Applies To SEC For Stock Issue

N. P. N. News Bureau

WASHINGTON, June 14. — The Dixie Refining Co., planning a refinery just outside Detroit to take care of the motor fuel needs of some of the independent jobbers in the Dixie movement has filed an application with the Securities and Exchange Commission to register an issue of 170,000 shares of common stock at $8 par value. This will broaden the field for sale of the company's stock and will also give it additional capital over what was proposed when the company was organized last fall. It then planned to sell its stock to the public only in Michigan.

Its plans call for construction of a refinery with a crude capacity of 5500 barrels a day. It is to supply the requirements of oil jobbers in Michigan, and possibly later elsewhere, who market under the "Dixie" brand. Already the refining company has contracted with 11 Dixie jobbers in Michigan to supply their gasoline requirements totaling 13,675,000 gallons annually.

Output of the refinery will be 54,000,000 gallons of gasoline annually. On May 10, 1937, the refining company obtained an option from a large oil company for 3500 barrels daily of Mid-Continent crude oil, the registration disclosed.

Based on this crude supply, the refining company estimates its output will be 35,000,000 gallons of gasoline annually. However, the company intends to negotiate for purchase of actual crude production to meet additional requirements and protect itself against future needs.

Dubbs Unit

Besides a 5500-barrel Dubbs crude topping and cracking unit, the refinery will have a 160-barrel per minute continuous treating plant. Proceeds of the stock issue will also be used to erect a boiler house and auxiliaries, pipelines to river dock, pumping house, office building and other equipment. Dock facilities on the Detroit River will be leased from Dixie Terminals Oil Co. The company has an option for a Dubbs license.

Sales by Dixie licensees in 11 states now total over 100,000,000 gallons a year. Independent jobbers selling under the Dixie brand buy on specification from various refineries. Dixie jobbers in Michigan have been buying largely from the Ohio Oil Co.'s refinery at Robinson, Ill., according to the registration statement.

But the Ohio Oil Co. has built up its own business in the territory around its Robinson refinery to the point where it can dispose of all that plant's output, and wants to discontinue selling the Dixie jobbers as soon as they can erect their own refinery, the registration statement disclosed.

Officers of the Dixie Refining Co. are: Paul R. Kempf, Staebler Oil Co., Ann Arbor, Mich., president and director, and chief executive officer; Dr. George Granger Brown, of the engineering staff, University of Michigan, vice-president and director; Neil Staebler, Ann Arbor, Mich., secretary, treasurer and director, and financial and accounting officer; A. A. McGillivray, S. T. & H. Oil Co., Bad Axe, Mich., director; and Charles H. Block, Wyandotte, Mich., director.

Dickey Refinery Sold To Bay Petroleum Co.

N. P. N. News Bureau

CLEVELAND, June 14.—The refinery of the Dickey Oil Co., at McPherson, Kans., has been sold to the Bay Petroleum Co. according to reports received here. The consideration is reported to be $300,000, plus the inventory of crude and finished products in the possession of the refinery as of June 1, when possession and operation passed into the hands of the new company.

Bay Petroleum Co. is a marketing organization with a line of filling and service stations in western Nebraska. This company has been operating a small topping plant near Cheyenne, Wyo., and is reported to have a 2000-barrel plant, including a Dubbs unit, under construction near Denver, Colo. Reports say the new company will spend $2,000,000 on the Denver and McPherson refineries, the latter plant to be expanded to a 4000-barrel per day capacity. It is now rated nominally at 3200-3500 barrels.

N. H. Robineau is named as manager of the Bay company. The company is being financed in large measure by a Mr. Bay, one of the higher officials of Parke-Davis Co., of New York, reports say.

The Dickey plant was built about 1932, and has been operating under the Gasoline Products Co. Unicoil process. Allen M. Peairs, contracting engineer of Dallas, is stated to be acting as consultant for the new company.

S. O. Ohio Union Is Incorporated Under Ohio Law

N. P. N. News Bureau

CLEVELAND, June 14. — Standard Oil Co. of Ohio employes in the manufacturing and sales divisions, except in Cleveland, are over 90 per cent members of the Assn. of Petroleum Workers, an independent union not affiliated with either the A. F. of L. or the C. I. O., Howell H. McCowen, of Cincinnati, former head of the disbanded company union, announced.

The majorities were established after elections in each of the company's refineries and plants and among the various sales divisions (service station men), he said. He was careful to state that his independent union had lost out in one refinery, No. 1 plant in Cleveland, where a local of the International Assn. of Oil Field, Gas Well and Refinry Workers of America has a charter.

Four office forces, once associated with the Sohio Council, former company union, chose not to organize in any union.

Incorporated Union

Cleveland service station men chose to form a separate independent union and incorporated under the laws of Ohio as the Assn. of Petroleum Workers, Inc.

Jack Maston, of Cleveland, president of this union, said Cleveland service station employes had formed a union separate from McCowen's organization because of local problems here. Pressure from the regular unions is greater, he said, and wage scales generally higher.

Employes of five plants and 12 sales divisions all told are members of the statewide Assn. of Petroleum Workers, McCowen said. Paid up memberships as well as the elections, reveal a majority of well over 90 per cent, he said. The various chapters will have a joint meeting later this month to elect officers.

Mont. Road Conference

CLEVELAND, June 11.—The Third Annual Montana Bituminous Conference will be held again at Glacier National Park, Mont., Sept. 7, 8 and 9, according to D. A. McKinnon, manager of the Montana State Highway Commission. The conference discusses roads, road materials, including asphalt, and research and specifications of these materials.

Heads New Oil Concern

NEW HAVEN, Conn., June 12. —Thomas M. Owen, for the past 14 years with the wholesale department of Cities Service Oil Co. in New England, on March 1 became president of the newly organized Harmon Oil Co., Inc., New Haven. He is well known among jobbers in Connecticut and Massachusetts.

Previous to its incorporation, Harmon Oil Co. was the partnership of Sidney Harris and the late William Montgomery. It had been marketing petroleum products through Connecticut for the past 11 years under the name "Harmon". Mr. Harris remains as secretary and treasurer of the new company.

6 Ohio Oil Firms Sign With C.I.O.

N. P. N. News Bureau

CLEVELAND, June 14. — Possibility that oil companies in this area would be caught in a jurisdictional dispute between C. I. O. and A. F. of L. unions had failed to materialize today after signing of an agreement covering Toledo (O.) tank drivers with Local 346 of the International Assn. of Oil Field, Gas Well & Refinery Workers of America, a C. I. O. affiliate.

The companies party to the agreement were Shell Petroleum Corp., Sinclair Refining Co., Cities Service Oil Co., National Refining Co., Gulf Refining Co. and Daly Oil Co. The first four of these just previously signed an A. F. of L. contract covering Cleveland drivers. Cleveland and Toledo are 150 miles apart.

Wage Scale

Wages per month of Toledo employes (Toledo has population of 300,000) are as follows:

Classification	Years with Company 1	2	3
Drivers	$125	$130	$135
Head warehousemen	120	125	130
Loaders, gaugers, dispatchers	110	115	120
Warehouse helpers	100	105	110
Bulk depot and warehouse clerks	95	100	105
Night watchmen	90	92.50	95
Bulk depot washers, porters	90	92.50	95
Equipment maintenance men	125	130	135
Auto mechanics	140	145	150

The agreement further provides that "any employe in the above classifications who works 173 hours or more in any one month shall be classified as a full time employe in the proper classification and paid the minimum rate for that classification for the time so worked."

Arbitration Terms

In event an employe feels he has been unjustly discharged, the agreement provides that he or a union agent shall first consult local management of the company and secondly, if necessary, the head office of the company. If the matter is still unadjusted, the dispute shall be submitted to a third party mutually agreed upon. If a third party cannot be agreed upon in ten days, the director of the bureau of conciliation of the U. S. Department of Labor shall select the third party, and his decision shall be binding on all parties.

The companies agreed to no work on Sunday, with qualifications, nor on certain legal holidays, seniority in rehiring after lay-offs, uniform allowance of $1 per month, no lockouts and allowing limited time off for union meetings.

Union agreed not to coerce or intimidate workers into joining the union, nor engage in solicitation of memberships on company time or property.

Principal point refused by the companies was a paragraph requiring consultation with union business agent in hiring of personnel, company negotiators said.

Standard Oil Drivers

Standard Oil Co. of Ohio raised wages of Cleveland drivers $5 to about $155 per month immediately, following an increase from $142.50 to $151.25 negotiated May 19 between the Petroleum Truck Drivers and Helpers Union Local 545 and other majors.

Meanwhile negotiations between this union and a dozen companies over wages of drivers in rural counties continued without progress, it was reported today.

Fun And Business For Scouts Assn.

DALLAS, June 11.—Between golf tournaments, stag parties, exposition trips and dinner dances, the National Oil Scouts Assn. of America will take time to hear several papers on production methods and related subjects at its annual convention at the Baker Hotel here, June 24, 25 and 26.

The address of welcome will be delivered June 25 by Ben Crites, Dallas Chamber of Commerce. W. R. Boyd, Jr., executive vice president, American Petroleum Institute, will open the convention with an address, after which a paper by Bruce Barkis, Lane-Wells Co. of Texas, will be heard on "Recovery of Cased-off Production and Its Effect on National Oil Reserves".

On June 26, E. F. Stratton will talk on "Water Flow Location by Means of Photoelectric Survey", and Mr. Hughes, Eastman Oil Well Survey Co. on "Directional Drilling." Another paper will be announced later.

A golf tournament June 25, a stag party in the evening and a dinner dance the last evening will be the chief entertainment features for the men. The Pan-American Texas Exposition at Dallas has designated June 25 as National Oil Scouts Assn. day.

For the ladies, there will be a bridge luncheon and floor show, a trip to the exposition, and a style show.

Two-Week Strike At UOP Is Ended

By Teletype
N. P. N. News Bureau

CHICAGO, June 14.—Recognition of the Federation of Architects, Engineers, Chemists and Technicians, a C.I.O. affiliate, was granted by Universal Oil Products Co., here June 11 and a two-week strike of approximately 100 technicians was ended when strikers returned to work.

The company said that recognition of the C.I.O. union as bargaining agent for members employed by Universal was the major point in the dispute. While some salary adjustments were put into effect last week, officials said that salaries had not entered into negotiations, and that pay readjustments had been contemplated before union demands were made.

Picketing of the office building housing the company's main office in downtown Chicago, as well as the plant at Riverside, Ill., a suburb, had been carried on before negotiations were completed.

The union had cited the company before the National Labor Relations Board, charging intimidation and refusal to recognize the union as the collective bargaining agent. Informal discussion with the labor department report followed and the strike ended before an official ruling was handed down.

Adds Courses in Oil

TULSA, June 14.—University of Kansas will add a department of petroleum engineering to its otherwise rounded out engineering school at the beginning of the 1937 fall term. Eugene A. Stephenson, who has headed the department at Missouri School of Mines, Rolla, has accepted the invitation to be head of the new Kansas department.

Oil Men Ponder Depletion Attack

(*Continued from page* 17)

rounded by many most unusual features not at all flattering to the administration, to say nothing of the fact that it was brought for co-operating with the government under the code and at the administration's request.

Why the Oil Industry?

Many oil men, therefore, are wondering why their industry should be thus seemingly singled out for this kind of treatment, especially in view of the job the industry did for the Roosevelt administration in at least helping to bring the oil country out of the depression, at great cost to itself, by increasing wages, putting several hundred thousand extra men back to work and, above all, by arbitrarily doubling the price of crude oil to $1 a barrel and holding it there, despite the fact that the tank car and retail markets did not respond and despite the inability of the administration to stop the flood of "hot oil" from East Texas.

The President's recent severe and untruly stated condemnation of the depletion allowance, which is the result of an act of Congress starting some 20 years ago, caused men to recall a visit to the oil southwest last fall just before election by Karl A. Crowley, solicitor of the post office department and to look up the statement issued by Mr. Crowley on his return to Washington. Mr. Crowley's statement in full is reproduced in connection with this article but, in brief, the statement scolded "the heads of great oil companies who have been among those most benefited by the Roosevelt prosperity" for not contributing to Roosevelt's campaign fund. The statement pointed to increases in the value of many big oil company stocks on the market and called those advances "profits" which Crowley claimed were due to the administration.

Depletion Dragged In

Then the statement dragged in the depletion clause in what, to most oil men, seemed to be a peculiar and unnecessary way; that is, no one had been talking or thinking about depletion in connection with the Presidential campaign or any possible contribution to the Roosevelt expense; in fact the present depletion allowance has been worked over by so many tax experts of government and the industry that it is generally considered to be about as scientific and as non-political as any tax law can be expected to be. Solicitor Crowley dragged up this highly technical depletion law in the following language:

"No doubt these profits (of oil companies, meaning the increases in stock values since the bottom of the depression) would not have been so enormous or so much money be spent against the Democratic administration if the Democratic Congress had refused to continue the law that allows these oil companies to deduct 27½ per cent of their gross production revenue for depletion before paying income taxes, instead of making them prove actual depletion, as other businesses are required to do.

"If there ever were cases of biting the hand that feeds them, then the campaign speeches of bitterness and vituperation and money spent against our President by J. Edgar Pew and others are fair examples. Just why the heads of the corporations should feel that they are God's chosen people and should not bear any just part of the burden of saving this country out of their stupendous incomes is beyond the comprehension of we ordinary mortals. The only way to meet their vicious attacks is for we small people, who are patriotic, to aid Mr. Miller's committee as much as we can."

The Mr. Miller was chairman of the Democratic Campaign Committee for Texas and in dire need of funds, according to all reports. The above words were contained in a statement issued by Solicitor Crowley through the Post Office Department's regular press section, where official public statements are made by the department. It was issued Oct. 2, 1936 (published in N.P.N. Oct. 7).

Contributions Lacking

This statement followed immediately on Mr. Crowley's return from a trip through Oklahoma and Texas where, according to all reports, he called on many oil men and asked for campaign contributions. The report is that he did not get a nickel and that most oil men told him that he had a heck of a nerve to demand campaign money after the administration

Text of Crowley Statement

Complete text of statement by Karl A. Crowley, solicitor of the post office department, issued through that department Oct. 2, 1936, upon his return from a trip through the southwest soliciting contributions to the Democratic campaign fund.

"I have today written to Mr. Roy Miller, Chairman, Democratic Campaign Committee for my home State of Texas, calling attention to the extraordinary situation which exists with reference to the political position taken by the heads of the great oil companies.

"While independent oil companies are loyally supporting the President who has been their salvation and the employes of the major oil companies are demonstrating their independence by refusing to follow their employers into the Republican ranks and are giving their support to President Roosevelt who they know to be their best friend, the heads of great oil companies who have been among those most benefited by the Roosevelt prosperity are pouring out money in a vain effort to defeat his re-election.

"The following facts taken from New York Stock Exchange reports demonstrate the effect of recovery in the oil business:

"The Sun Oil Co., owned by the Pew family, heavy contributors to the miscalled Liberty League, the Republican Campaign in Maine and other Republican Campaigns, has increased in value from $108,000,000 in 1932 to $184,000,000 in 1936, a net increase of $76,000,000. Its profits have increased from $4,000,000 in 1932 to somewhat more than $7,000,000 in 1935, an increase from $2.25 a share to $3.16.

"The value of stock of The Texas Corp. has sky-rocketed from $87,000,000 in 1932 to $373,000,000 in 1936, and its stock has risen from $9.25 to $40 a share. While in 1932 this company had a *deficit* of $2,161,841, in 1935 it showed a *profit* of $17,300,075. A *loss* of 22 cents a share in 1932 became a *profit* of $1.82 in 1935.

"The Humble Oil Co. is a subsidiary of the Standard of New Jersey. The Standard of New Jersey is a corporation of Mr. Rockefeller, who not only is a heavy contributor to the Republican party, but boasts of it. His corporation has fared almost as well as the others. While in 1932 the total value was $118,000,000, in 1936 its value is $687,000,000. This is a tidy profit to be received by these gentlemen from the hands of the Administration which they are striving to defeat. Its earnings, which were $1.68 per share in 1932, had increased to $2.67 in 1935. A profit to the Humble of $14,000,000 in 1932 had increased to a profit of $23,000,000 in 1935.

"The Shell Co. has made an astounding recovery since 1932. In that year it *lost* 49 cents a share, whereas in 1935 it *earned* 36 cents a share. In 1932 it *lost* $660,000 and in 1935 made a *profit* of $6,812,000. In the first six months of 1936 it made a *profit* of $6,392,000. The value of the Shell has increased from $235,000,000 in 1932 to $313,000,000 in 1936.

"The earnings of the Consolidated Oil Corp. (Sinclair) jumped from $1,601,000 in 1932 to $11,306,000 in 1935. Its total value increased from $56,000,000 in 1932 to $213,000,000 in 1936.

"The Gulf Oil Co., controlled by the Mellon interests of Pittsburgh, among whom are found the heaviest contributors of money to be utilized in an attempt to defeat Roosevelt and Garner, has also profited by the recovery which the Mellons complained was forced on the people by Franklin Roosevelt. The Gulf, which had a *loss* of 61 cents a share in 1932, *earned* $2.27 a share in 1935. A 1932 *deficit* of $2,768,000 became a *profit* of $10,551,000 in 1935. The value of the Gulf, which in 1932 was $104,000,000, has increased until it is now $475,000,000.

"One Rockefeller company alone has profited to an extent equalling almost the entire Federal aid to farmers and half the amount paid to all our soldiers. Its value, which on March 3, 1933, was $618,000,000, increased by May 29, 1936, to $1,538,000,000, and has since increased to approximately $1,700,000,000, a clean cut profit and enhancement in value of more than one billion dollars.

"No doubt these profits would not have been so enormous or so much money be spent against the Democratic Administration if the Democratic Congress had refused to continue the law that allows these oil companies to deduct 27½ per cent of their gross production revenue for depletion before paying income taxes, instead of making them prove actual depletion as other businesses are required to do. If there ever were cases of biting the hand that feeds them then the campaign speeches of bitterness and vituperation and money spent against our President by J. Edgar Pew and others are fair examples. Just why the heads of these corporations should feel that they are God's chosen people and should not bear any just part of the burden of saving this Country out of their stupendous incomes is beyond the comprehension of we ordinary mortals. The only way to meet their vicious attacks is for we small people who are patriotic to aid Mr. Miller's Committee as much as we can."

had brought such serious and, in most oil men's opinion, such unwarranted charges in criminal indictments against 80 oil men at Madison, Wis. One report is that Mr. Crowley expressed ignorance of the indictments, then more than two months old, and said that he would see "Jim" Farley at once and that he would "fix it."

But all that happened, so far as the oil industry knows, on Crowley's return to Washington, was this blistering statement. Though there was much adverse comment upon the statement, neither Crowley nor any one else for the administration or the Democratic party ever withdrew or modified it.

Crowley is still holding his official position with the post office department. It was current gossip some time ago that Crowley was Farley's candidate for the next governor of Texas. However, this gossip has been rather overshadowed of late by talk that young Elliott Roosevelt, who has gotten himself into the oil business a little as well as being Hearst's Texas radio manager, is slated to be the second next governor of Texas, following removal to higher political office by Presidential appointment of several gentlemen who at the moment seem to stand in the way.

Therefore, oil men wonder what is the trade and what is the price?

Workers With Service Record Given Rings

N. P. N. News Bureau

CHICAGO, June 14.—A banquet and entertainment to 200 of its foremen, key men, and department heads was tendered at the Hotel Shoreland, Chicago, by Wilson & Bennett Mfg. Co. manufacturers of steel containers. This was the second annual banquet the company has held.

An important feature was the awarding of rings to employes with 10 years or more of service. Solid gold rings went to those with 10 years or more service, while those with 15 years or more, received diamond rings.

Presentation of these rings was made by S. A. Bennett, president. The men receiving them were: Emil and Ed Ruhnow, A. R. Kaehler, Henry Flohr, Duell Gabbert, Charles F. Noetzell, Acie Warner, George Loew, John Cerven, Timothy Coppens and William Albrecht.

A seven-act program, which included well known radio and stage stars, and a company quartette, furnished the entertainment.

Sun Oil Presiden Scores Pennsylvania Investigation

(*Continued from page* 17)

be adjusted by competitive laws."

Competition Functions Freely

"No industry has ever operated here or anywhere else where the laws of competition and of supply and demand have so freely functioned as they do right now in this state and in this industry," he added. Only one element in the entire smoothly-functioning set-up, he said, is not now functioning as efficiently as it should be and will before long—retailing.

Pew cited the 47 per cent drop in the wholesale price of gasoline from 1926 to 1936, quoting Oil Price Handbook, and compared it with the price experience of other commodities—an increase of 54 per cent in price of corn over the same period; a decrease of 21.7 per cent in price of hogs; a decrease of 17 per cent for cotton; an increase of 183 per cent for leaf tobacco; a decrease of 18 per cent for butter, sugar, and cocoa beans; an increase of 24 per cent for pig iron; an increase of 14.4 per cent for copper, and an "unchanged" price for steel rails.

These shrinkages in price of gasoline have been passed on to the consuming public at the filling station, Pew pointed out, quoting figures which showed that the average filling station price, without tax, dropped from 29.74 cents in 1920 to 14.11 cents in 1936. The average was taken for 50 U. S. cities.

Earle Message

In his message to the Pennsylvania legislature, asking for the current investigation, Governor George H. Earle cited the discrepancy in prices for gasoline in various Pennsylvania cities as one of the reasons for seeking the probe.

Pew answered this by calling attention to "some evidence that excesses of competition are not confined to the marketing of gasoline." He produced 12 well-known branded articles (Heinz soup, Chesterfield cigarettes, Keebler's crackers, etc.) and told of the wide variance in prices of identical articles in stores only a few blocks apart—almost 50 per cent in some cases.

"My point is," Pew said, after this recital, "that price variations of this kind are universal; they are within the daily experience of everybody, particularly every housewife; they are inevitable incidents to the workings of the competitive system, which on the whole, in the aggregate of results, has served the consuming public better than any other price-fixing system that was ever devised."

"Gas" Not Starting Place

"If, however," he continued, "legislative wisdom proposes now to reform us, I submit that, on the face of these returns, the price structure of gasoline is by no means the place to start the reformation."

Pew also brought out the constant temptation to evade the sales tax of "40 to 100 per cent of the manufacturers' cost of gasoline" on the part of dishonest merchandisers as another element leading to price cutting and subsequent unstable price structure.

Concluding his remarks before the commission, Pew said he would be "less than frank," if he did not say that he regarded the investigation as "unnecessary, unwarranted, and as calculated only to increase the difficulty of an industry that deserves only the goodwill of the public and the legislative authority of the state."

Chief Revenue Collector

"I believe," Pew went on, "the facts and figures I have laid before you completely demonstrate that the oil industry renders its service to the public at less cost than any other basic industry in the nation. The high taxes levied against it have made it one of the chief collectors of revenue for the public treasury. One-seventh of all the annual revenues of Federal, state and local governments come from the special taxes on the motor car and its fuel.

"You will find no evidence of collusion, conspiracy or unfairness in fixing the prices of our products. This is notoriously the most competitive of the nation's great industries. If it is liable to any criticism it is because of excesses in that quarter. For dealing with these excesses we have plenty of law now. More law, more regulation, more legislative harassments, will only make the situation more difficult for the industry, for the people who are dependent upon it, and for the public which uses its products."

A two-day session of the investigating commission will be held June 18 and 19 at Pittsburgh, when retailers will be heard, and the week following it will hear producers at Oil City and Franklin on June 25 and 26.

"We want to get as many different slants as possible before starting the detailed phases of the investigation," Judge Smith said, adding that among the conditions on which the commission had received complaints were: price differentials between various sections of the state, price wars between groups of independents and integrated companies; unfair trade practice through secret rebates, special discounts, and the lack of stability and normal trade uniformity in the prices of products sold to the retailer.

Virginia Jobbers Announce Meeting

ROANOKE, Va., June 14.—The meeting of the Virginia Petroleum Jobbers Ass'n. at the Patrick Henry Hotel here June 23 will be an important one and efforts are being made to have every Independent oil jobber in the state present, according to Ira F. Walton, chairman of the arrangements committee.

In recent years the jobbers have been holding their meetings in conjunction with those of the Virginia Oil Men's Ass'n., which is an organization of major oil company officials and distributors as well as Independent jobbers. A meeting of the oil men's association was held several weeks ago in Roanoke; but the June 23 meeting is for the jobbers' organization only.

One of the matters to be taken up will be the question of whether the jobbers' organization should hold its meetings separately or at the same time as the oil men's semi-annual meetings.

Election of officers to run the Virginia Petroleum Jobbers Ass'n. during the ensuing year will also be held at the coming meeting.

Legislation likely to be proposed at the biennial session of the Virginia legislature affecting the oil industry, and Independent jobbers in particular, will be discussed.

How the activities of the National Oil Marketers Ass'n. tie in with those of state associations will be explained by M. B. Whiting, Whiting Oil Co., Clifton Forge, Va., who is president of the NOMA. The business sessions will open promptly at 10:30 A.M. on Wednesday, June 23.

Canfield Oil Co. President Dies

N. P. N. News Bureau

CLEVELAND, June 14. — Charles M. McLean, president of the Canfield Oil Co. since Feb. 4 and a member of that organization since 1895, died at St. Luke's Hospital here June 12 of a heart ailment.

Apparently recovered from an attack a year ago, Mr. McLean became ill last winter while in Florida with his family. He returned to Cleveland early in May and, until a few days before his death, had been confined to his home.

Mr. McLean had spent the majority of his years in the selling branch of the oil business. He has sold petroleum products to jobbers from coast to coast. Even before 1900 he sold kerosine in small northern Ohio towns, covering the territory in a horse and buggy.

A few years ago he became head of Canfield's jobbing sales department, and before his election as president, he was vice president in charge of sales for the company. Mr. McLean's election to the presidency came as the result of the death of Louis Carruth in December, 1936, who had served as president since 1920.

Mr. McLean is survived by his wife and one daughter. Burial was in Lake View Cemetery here June 14. Mr. McLean was 60 years old.

According to a company official, no successor will be named until the next directors' meeting, which is scheduled for next month. Until then, the duties of president will be handled jointly by H. M. Carruth and J. A. Jackson, vice presidents.

Standard for Stoddard Solvent is Revised

NEW YORK, June 14.—A change in the recommended revision of stoddard solvent, Commercial Standard CS3-28, circulated to the industry for acceptance on Jan. 12, 1937, has been requested by the National Institute of Dyeing and Cleaning, Inc.

The revision calls for insertion of a 50 per cent distillation requirement in paragraph 11a of the recommended revision, TS-2330. The revision, which was a part of the original Commercial Standard CS3-28, is included in the following paragraph:

"Distillation range—When a sample is distilled in accordance with paragraph 20, not less than 50 per cent shall be recovered in the receiver when the thermometer reads 350° F. and not less than 90 per cent when the thermometer reads 375° F. The end point (maximum distillation temperature) shall not be higher than 410° F."

April "Natural" Output Highest Since 1931

WASHINGTON, June 14.—Daily average production of natural gasoline in April was 5,475,000 gallons, the highest monthly figure since March 1931, when the daily average was 5,574,000 gallons, Bureau of Mines reports. Daily average in March this year was 5,295,000 gallons.

Largest increases in April were registered in East Texas, Louisiana and Oklahoma, and stocks at refineries and plants rose to 222,264,000 gallons on April 30, or 20,706,000 gallons higher than March 31.

Shipments of natural gasoline to jobbers and retailers, along with exports, totaled 27,300,000 gallons in April, an increase of 4,746,000 gallons over similar shipments in March.

Average vapor pressure of all the major classes of shipments, except exports, decreased in April, the report shows. The weighted average vapor pressure of all shipments was 19.55 pounds, compared with 20.20 pounds in March.

Is Chief Geologist

TULSA, June 14.—A. Rogers Denison, for several years division geologist for Amerada Petroleum Corp., has been appointed chief geologist and will come to the company's general offices in Tulsa. The position has been vacant for several years. Mrs. Charles A. Hall, formerly Miss Dolly Radler, has been acting chief geologist and she now takes the title of administrative geologist.

J. F. Hosterman, Denison's assistant, succeeds him at Fort Worth. Denison, a graduate of the University of Oklahoma, has been with Amerada since 1922.

More Oil Associations Attack Undistributed Surplus Tax

N. P. N. News Bureau

CLEVELAND, June 14. — Three more oil associations, within the past week, have publicly protested the federal tax on undistributed surplus in its effect on the smaller independent oil marketing companies. Two associations of marketers earlier had taken similar action.

The board of directors of the Indiana Independent Petroleum Assn., in a resolution adopted on behalf of the association, stated the tax was taking much needed working capital from the businesses of their members. The resolution has been forwarded to Indiana senators and to the Ways & Means Committee of the House, at Washington.

An editorial in the Hoosier Independent, the organ of the association, comments on the tax as follows: "Although this tax is claimed to be a method of placing dollars from big company treasuries into the pockets of stockholders to increase spending power and to aid recovery, the Independent Jobber, a comparatively small business man, has felt the same tax remove dollars from his cash drawer that would have gone to improve his cash position and to rebuild his surplus account."

The Oil Men's Assn. of New England, Inc., Boston, unanimously voted June 9 that a protest be sent senators and congressman; and The United Oil Terminals Assn., Mt. Vernon, N. Y., urged its members to write their congressman opposing the tax as unfair.

The latter is an association of independent operators of bulk fuel oil terminals located on Long Island and in Westchester county, N. Y.

The New England association states that it will "follow through in a vigorous attempt to have its congressmen furnish relief for the small companies", according to George E. Young, executive secretary.

* * *

The Virginia Oil Mens Assn. a short time ago adopted a resolution against the undistributed surplus tax, stating that it would lead to the destruction of small and medium sized business concerns.

The South Carolina Independent Oil Mens Assn. still earlier resolved against the tax, pointing out, with regard to oil companies particularly, that the tax would weaken the local independent marketing concerns, making them less able to withstand the rigors of gasoline price wars, while their integrated competitors would hardly be handicapped by local disturbances, due to the widespread scope of their operations.

Fla. Legislature Stops City "Gas" Tax Levies

NEW YORK, June 12.—For the next two years, Florida municipalities, with four exceptions, are prohibited from levying taxes on gasoline, through action of the state legislature.

The legislature passed a bill which continued the state's present 7-cent gasoline tax but denied cities the taxing privilege. Exceptions are Panama City, Pensacola and Chipley, which were authorized to levy city gasoline taxes if they desired, and St. Augustine, which was authorized to hold a referendum vote on the subject. Seven Florida cities which were levying a gasoline tax will be forced to discontinue them through the state legislature's action, it was stated.

Named Director

CHICAGO, June 14. — Philip G. Wharton, general auditor of the Atlantic Refining Co., was re-elected a director of the National Office Management Ass'n. last week during the annual conference of the association here.

Wharton is a past president of the Philadelphia Chapter of the National Office Management Association and a director of the Philadelphia Chapter of the National Association of Cost Accountants. Entering the employ of the Atlantic Refining Co. in 1911, he was appointed general auditor of the company in 1935.

Ohio Marketers' Fall Meet in Cleveland

CLEVELAND, June 14.—The fall conference and golf tournament of the Ohio Petroleum Marketers Ass'n. will be held in Cleveland, Sept. 29 and 30, according to the Ohio Petroleum Marketer, association bulletin. The conference, which will be held the first day, will be at the Hotel Carter, while the golf tournament, to be held the second day, will be at the Westwood Country Club.

J. Frank Mullay, sales manager, National Refining Co., Cleveland, has been chosen general chairman of arrangements by L. H. Rogers, president of the association.

W. W. Vandeveer, Allied Oil Co., Inc., Cleveland, is in charge of the golf. Prizes will be given and it is expected that 100 or more contestants will take part.

Already plans are under foot to make it the "largest ever" convention. Mr. Mullay promises plenty of entertainment.

Season of Record-High 'Gas' Demand Opens with 12% Gain for April

N. P. N. News Bureau

WASHINGTON, June 14.—The oil industry's season of heavy gasoline consumption got off to a flying start with April domestic demand for motor fuel totaling 43,409,000 barrels, an increase of 12 per cent over April a year ago, according to the Bureau of Mines.

Figures for May are not available as yet, but the bureau predicted a motor-fuel demand of 47,650,000 barrels for that month and 48,500,000 barrels for the current month of June.

Domestic demand for gas oil and distillate fuels in April was 8,171,000 barrels as compared with 6,842,000 barrels in April, 1936. Residual fuel oil demand was up to 27,709,000 barrels; the April figure a year ago was 24,702,000 barrels.

In spite of record-breaking runs to stills, fuel oil stocks were lowered in April. Seasonal withdrawals from gasoline stocks amounted to about 1,000,000 barrels and brought the total down to 80,667,000 barrels as of April 30.

Daily average production of crude oil continues to hit new highs, reaching 3,499,300 barrels in April, a new record, which is 56,600 barrels higher than the record set in the previous month.

Production in all major producing states, except Texas and Louisiana, increased in April. Daily average output in Texas dropped from 1,404,900 barrels in March to 1,382,500 barrels in April. California's production passed the 600,000-barrel mark for the first time in months, while Kansas, New Mexico and Wyoming again set new records.

Practically all the important fields in Oklahoma registered gains, pushing the Sooner state's output from 650,800 barrels daily in March to 680,600 barrels in April. Drilling in the Buckeye field continued to stimulate production in Michigan.

Field work again increased, 1937 oil wells being brought in during April, compared with 1815 in March and 1622 in April, 1936, the Bureau reported. It pointed out, however, that the total initial of the successful completions in April this year was less than the total initial in April, 1936.

DAILY AVERAGE PRODUCTION IMPORTANT DISTRICTS
American Petroleum Inst. Figures

	—Week Ended— June 12 Barrels	June 5 Barrels
Oklahoma City	168,600	152,200
Total Okla. ..	640,800	642,350
East Texas...	464,000	463,250
Total Texas.	1,390,800	1,413,550
Rodessa	47,400	49,550
Total La.....	249,850	246,600
California ...	663,200	661,400
E. of Rockies.	2,852,700	2,876,750
Total U. S.....	3,515,900	3,538,150
Crude imports	94,430	75,140
Tot. new sup'ly	4,610,330	3,613,290

Second Weekly Gain In Crude Stocks

By Teletype

WASHINGTON, June 15. — Stocks of crude petroleum increased 778,000 barrels during the week ended June 5, the second consecutive weekly increase since the slight decline in mid-May, according to Bureau of Mines figures.

On May 29 stocks stood at 306,445,000 barrels and on June 5 they were 307,223,000 barrels, compared with 314,353,000 barrels on June 6 last year.

Stocks by grades for May 29 and June 5, showing changes, follow:

(Thousands of Barrels)

Grade	May 29	June 5	Change
Penna. grade	3,913	3,945	+ 32
Other Appal.	809	838	+ 29
Lima-N. E. Ind.-Mich.	1,439	1,400	— 39
Ill.-S. W. Ind.	9,660	9,702	+ 42
N. La. and Ark.	9,519	9,351	—168
W. Tex. and S.E. N.Mex.	31,608	31,389	—219
East Texas	23,592	24,030	+438
Other Mid-Cont.	125,332	126,054	+722
Gulf Coast	26,307	26,255	— 52
Rocky Mts.	25,325	25,158	—167
California	28,895	28,939	+ 44
Foreign	2,046	2,112	+ 66
Total rep'd including foreign	288,445	289,173	+728
*Unreported	18,000	18,050	+ 50
Total *Estimate.	306,445	307,223	+778

Motor Fuel Stocks Decline 500,000 Barrels; Crude Runs Up

N. P. N. News Bureau

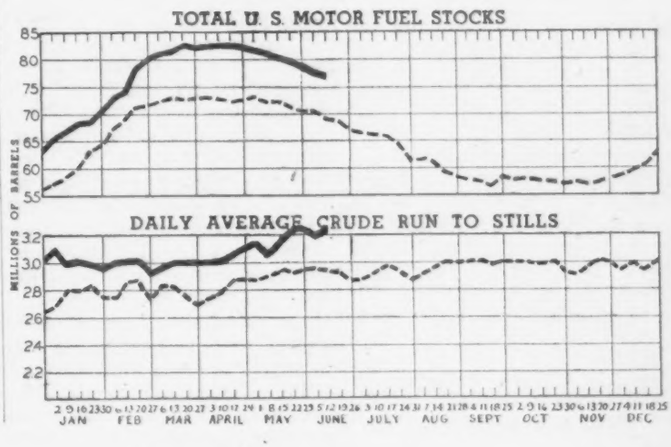
NEW YORK, June 15.—Despite an increase of 54,000 barrels in daily average crude runs to refinery stills the past week, total motor fuel stocks decreased 498,000 barrels, standing at 73,584,000 barrels on June 12, according to the American Petroleum Institute. A year ago motor fuel stocks totaled 65,936,000 barrels, while crude runs to stills were 150,000 barrels lower.

The largest changes in motor fuel stocks were decreases of 360,000 barrels in the East Coast district; 339,000 barrels in Oklahoma-Kansas-Missouri, and 206,000 barrels in Indiana-Illinois-Kentucky. Increases of 254,000 barrels in the Texas Gulf and 110,000 barrels in the Louisiana Gulf were reported.

East Coast crude runs declined 14,000 barrels, with refinery operations declining 2.1 per cent. Texas Gulf plants reduced runs 22,000 barrels. California increased runs 38,000 barrels and Inland Texas 14,000 barrels.

Operating capacity of reporting plants was up 1.5 per cent over the previous week.

By location of motor fuel stocks, those in-transit and in terminals declined the most, indicating reduction of 353,000 barrels from the previous week, to 22,646,000 barrels. Refinery stocks declined 14,000 barrels, to 44,024,000 barrels and stocks of unfinished gasoline declined 131,000 barrels, to 6,914,000 barrels.



CURRENT REFINERY OPERATIONS

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks Thousands of Barrels Total Finished and Unfinished Motor Fuel*		Total Finished Gas & Unfinished Fuel Oil		Gas & Fuel Oil	Cracked Gasoline Production % Total Capacity Reporting	Daily Av. Production (Barrels) Week Ended	
		June 12	June 5	June 12	June 5	June 12	June 5	June 12	June 5			June 12	June 5
East Coast	100.0	545,000	559,000	81.5	83.6	18,778	19,138	7,527	7,060		100.0	118,000	112,000
Appalachian	88.4	108,000	105,000	83.7	81.4	2,915	2,971	710	682		94.6	25,000	26,000
Ind., Ill., Ky.	92.1	450,000	442,000	96.4	94.6	13,507	13,713	5,359	5,223		98.5	135,000	134,000
Okla., Kans., Mo.	81.6	283,000	282,000	74.5	74.2	8,499	8,838	3,074	3,133		90.3	67,000	74,000
Inland Texas	56.6	153,000	139,000	76.1	69.2	2,006	1,922	1,633	1,551		71.7	40,000	39,000
Texas Gulf	95.5	677,000	685,000	89.4	90.5	9,977	9,723	6,923	6,681		98.0	154,000	159,000
La. Gulf	96.3	145,000	139,000	91.8	88.0	1,438	1,328	1,876	2,053		100.0	29,000	28,000
No. La., Ark.	63.7	46,000	40,000	79.3	69.0	445	454	372	378		77.5	7,000	7,000
Rocky Mt.	69.7	53,000	53,000	85.5	85.5	2,027	2,047	758	755		85.4	14,000	14,000
California	90.9	528,000	490,000	70.8	65.7	13,992	13,948	67,753	67,713		98.0	92,000	77,000
Total Reporting	88.8	2,988,000	2,934,000	82.4	80.9	73,584	74,082	95,985	95,229		94.8	681,000	672,000
Estimated U. S. Total (Bur. of Mines Basis)		3,250,000	3,195,000			76,996	77,494	98,158	97,402			750,000	740,000

*Includes stocks at refineries, in bulk terminals, pipe lines and in transit.

$75,000,000 Oil Bonds Are Sold

N. P. N. News Bureau

NEW YORK, June 14.—Continuation of the large expansion program of the Socony-Vacuum Oil Co., Inc., was seen here today with the sale by the company of $75,000,000 of its bonds to five mutual insurance companies.

"The proceeds from the securities will be added to the company's working capital and will be used to meet bank loans and the company's prospective capital requirements over the next three years," John A. Brown, president, said. In 1936 the company listed $76,500,000 as capital expenditures, $43,500,000 of which was for crude oil development and properties.

The debentures were sold at 98 per cent of par and carry a 3¼ per cent coupon. The Metropolitan Life Insurance Co., Prudential Insurance Co. of America, New York Life Insurance Co., Equitable Life Assurance Society of the United States and Mutual Life Insurance Co. of New York participated in the issue.

In former years the company expanded with funds accumulated from undistributed earnings, but under the undistributed profits tax now in effect, such procedure is heavily penalized, an officer of the company remarked. He said the direct sale would also save distribution and printing costs, often large items in a public offering.

New Refinery To Make Fuel Oil For Mills

BUFFALO, N. Y., June 14.—Frontier Fuel Oil Corp. has started construction of a refinery of about 2500 barrels daily crude capacity on River Road, north of Buffalo, under the direction of Frontier Engineering Corp., a subsidiary, and with Mid-Continent Engineering Corp. of Dallas, Texas, as consultants. This refinery is built to supply local steel and manufacturing plants with distillate fuel oils, which product Frontier has been marketing for some years.

Three large steel plants operating in this area use distillate fuel oils almost entirely for heating furnaces. A new addition to the rapidly increasing industrial activity in this area is the $8,000,000 motor and axle plant of Chevrolet Motor Co., two miles south of the new refinery site.

The new refinery will be supplied with crude by barge from the Michigan producing fields, and by ocean tanker from Texas to the east coast and barge through the State canal to Buffalo. The Frontier company has been supplying 80,000,000 to 100,000,000 gallons of fuel oil per year to customers in this vicinity, which is considered a very fast-growing industrial area, James F. Breuil, president of the company stated.

Permit for Black Plants is Sought

TULSA, June 12.—Application has been filed by Stanley Marsh, Jr., of Amarillo, for permit to build one or more carbon black plants in Texas county, Okla. The Corporation Commission of Oklahoma will hold a hearing on the application June 16.

The petitioner is a member of the firm of Hagy, Harrington & Marsh, which has extensive natural gasoline, gas and carbon black interests in the Texas Panhandle.

Marsh asserts that he has about 100,000 acres under lease in Texas county located on the structure which produces gas in Panhandle counties of Texas and four counties of Kansas north of Texas county. There is, he says, drainage of his leases by wells in both Kansas and Texas, as these fields are served by major trunk pipelines and no market exists for gas from the 10 to 15 wells that have been drilled in Texas county.

Marsh proposes to build natural gasoline plants to process gas before burning it for carbon black, where the gasoline content proves to be sufficient to justify its recovery.

The Oklahoma commission June 9 granted permission to the General Atlas Carbon Co. (Doherty interests) to build a plant near Guymon, which is in Texas county and in the same area where Marsh proposes building his plant. The company asserts the product it will make is known as Gastex and says that it differs materially from ordinary carbon black in its method of manufacture.

The company says it will recover nine to 11 pounds of its product from 1000 feet of gas.

The order carried the provision that the General Atlas company must purchase all the gas offered to it in the vicinity of its plant or which may "reasonably" be reached by pipelines tributary to the plant and, if unable to buy all the gas offered, it must purchase ratably and without discrimination in price.

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The station window, in fact the entire station front, offers an ideal spot for the display of vacation items and needs of motorists. That pictured at right is owned by the Kendall Refining Co., and is located at Meadville, Pa.

There's Extra Station Sales In Vacation Trips

TRAVEL folders and road maps will be found spread out on the library table in many a home these days. It is the opening of the season for the annual vacation trip.

Because it is vacation time, many station operators are bemoaning the fact it will slow up their business because it takes away some of the station's steady customers. Alert operators, however, are planning to turn the vacation season into a profit season, by taking advantage of the opportunity to help to get their steady customers' cars ready for the "open road."

Service stations are in the logical position to put their customers' cars in shape for the vacation season. Here is an opportunity for service, and one that provides a selling point for many items of merchandise carried by the station.

Proof that the vacation market is large, is shown in a nation-wide survey of touring habits of car owners just completed by the National Touring Bureau of the American Automobile Assn. Here it was reported that nearly 85 per cent of the returns were from persons who traveled to their vacation haunts by automobile; 8.5 per cent went by rail; approximately 5 per cent went by boat; 1.2 per cent by plane; and one per cent by bus.

The survey also showed that 54 per cent preferred to travel over a wide area, rather than go to a fixed point and spend most of their vacation time there.

Largely because of their accessibility, the northeastern states ranked first in tourist popularity. Good roads, historic points, climate, and good accommodations were given as the reasons for the preference for this territory on the part of vacation travelers.

The western states were rated very high on scenery, favorable in climate, and friendliness and hospitality of the people. Lack of traffic congestion added to the popularity of the western territory. Of the southern states, Florida led in popularity because of fishing and climate, although it rated low on scenery and roads.

But back to the car. What can the station do to get its customers' automobiles ready for the vacation trip. First of all, a personal canvass of the customer list will reveal which customers are planning a summer trip by automobile. Once the vacation list is made up, the station operator can concentrate on those names in his drive for summer vacation business. Many times such a personal solicitation will uncover a need expressed for certain common items, which will give the station man a clue as to what items and what quantities to order.

The list of vacation needs for the motoring vacationist are many. The car itself should be completely serviced preparatory to the start of the trip. Fresh oil should be put in the crankcase. Transmission and differential lubricant should be checked, and if necessary, drained, flushed and re-filled. Many motorists will start out on their vacations with winter lubricants in their cars' transmissions and rear axles, and be perfectly unmindful of the fact, unless the station operator reminds them, that, for a carefree vacation, they'd better have the lubricants changed to summer grade.

A chassis lubrication job is, of course, one of the essentials in servicing a car for the vacation trip. Front wheel bearings may have run long past their scheduled time for repacking, and this service should be suggested to the vacationist.

By a little close observation, station attendants will find ample excuse to suggest to play-bound motorist customers that replacements may be needed on tires, batteries, spark plugs, and windshield wipers before starting out. A clean radiator, which means the sale of flushing compound, should bring excellent profits simply by the power of suggestion, and top dressing can be made a demand item for the vacationist if the attendant will inspect his customers' cars.

THE station attendant, in attempting to sell his customers his service and his merchandise for their vacation trip, should bear in mind that he has a strong talking point on his side. The customer wants his trip to be troublefree. In many cases it is his one pleasure trip of the year, and otfen he will go to "unreasonable" expense to insure that everything moves along without a hitch.

Many of the wide variety of automobile accessories sold today are particularly appropriate for the motoring vacationist. Then, too, more accessories are being sold this year than last. A car manufac-

turer, maker of a low priced car, recently estimated that every new car buyer is putting $75 into accessories this year, while last year he paid out only $50 for these items.

The list of vacation accessories for the car could be continued on to some length, including such items as fan belts, polish, polishing cloths, seat cushions and covers, oil filters, light bulbs, radiator insect screens, radiator seal, fuses, fog lights, brake rod anti-rattlers, rear view mirrors and clocks, auto compassses, luggage racks, first aid kits, sun visors, auto radios, tire and tube repair kits, and ignition cable sets.

Other vacation needs which the station might profitably carry, and which find vacation uses in many ways besides around the automobile, are sun glasses, picnic jugs and supplies, padlocks, tow ropes, flashlights, and extension trouble lights.

But the service station need not be guided strictly by the automobile and its needs in considering its stock of vacation items. A little survey of local conditions by the alert station operator will uncover a wide variety of non-automotive items that may easily be sold and bring a profit.

Stations located near lakes have been known to successfully sell fishing tackle, bait, and to rent boats. Ammunition for rifles and shot guns may also bring a profit, depending upon the location and surroundings.

Equipment for tennis, golf, horseshoe pitching, swimming, and baseball are easily saleable items if the station is advantageously located with respect to these sports and summer resorts.

It is regrettable that the person who first said, "Goods well displayed are half sold," is unknown; for he should be personally credited for stating a basic merchandising fact. The station that has vacation services and items for sale, and does not let the fact be known by display and advertising, is making the job of selling the merchandise doubly difficult.

One method by which a station might promote the sale of its vacation supplies is to dress up its window and island display to feature "Vacation Needs For You And Your Car." The display would show and list as many of the items as possible. In addition the operator might develop and promote a vacation "Special." This "special" might include a complete vacation lubrication job, plus a set of seat covers; or an oil change, with a front wheel bearing lubrication, plus a flash light and picnic set, all for a pre-determined attractive price.

A suggestion for another method of selling vacation needs through his station is for the operator to develop an inexpensive folder or leaflet to distribute to customers in his neighborhood and at the station. This leaflet would list on one side the many things that the reader should remember to do before leaving for his vacation. Items such as, turn out all lights in the house, turn off water, see that doors and windows are locked, turn off gas heater and stove, stop milk and paper, change post office address, and many other similar suggestions, might be indicated on the one side of this folder.

On the other side of the folder, the station would advertise its vacation combination offers, or list the many items it has to offer the motorist as an aid in getting him started right on his vacation and to insure that his vacation is free from motor trouble.

Still another suggestion would be for the station operator to personally solicit the neighborhood for vacation servicing. He could easily get a line on his regular customers, finding out when they plan to start on their vacations, and calling a few days before that time to ask if he might call for the car and take it to the station to be put in good shape for the trip.

Many more suggestions will present themselves to the alert station operator. The important point is to remember that the vacation season offers real opportunities for the station to increase its income, and in addition, the vacation theme offers the operators a powerful and logical argument to use in getting vacation-bound customers into their station to buy. Vacation time need not mean only the temporary loss of a regular customer. It can be made a special sales opportunity. It is all in the point of view of the operator.

"Hello, Neighbor" Sales Program Offered Independent Jobbers

TULSA, June 12.—A couple of years ago officials of the Anderson-Prichard Oil Corp., Oklahoma City, listened to one of their jobber customers outline a co-operative merchandising plan he had worked up for himself and his dealers. As he unfolded his idea the officials recognized several of the stock merchandising methods—and yet there seemed to be interwoven among them some new twists that made the whole pattern appear distinctive and different. It had a certain "appeal."

"Go ahead with your idea," the officials told W. R. Pate, president of the Pate Oil Co., Milwaukee, "and we will go along with you as 'silent partners.'"

The Pate company went ahead. Its list of dealers in Milwaukee county increased. The gallonage of those dealers jumped, for some by as much as 50 to 100 per cent.

Within a short time Anderson-Prichard's officials were looking at the plan from an independent refiner's standpoint. The more they studied the plan, the more convinced they became that it provided just the kind of tie-up an independent refiner, without retail distribution, wanted to offer independent jobbers. And it gave these independent jobbers the tie-up they would want with their dealers. There was no danger, under this co-operative plan, of the independent jobber who wanted to remain independent, finding himself "pushing", even indirectly, either the brand or the name of the refiner from whom he obtained his merchandise.

Anderson-Prichard accordingly began registering the plan and trade-name in all of the states in which it does business. President Pate's original plan was revamped in a few particulars to fit into the Anderson-Prichard picture. Now the completed plan has been announced by the refining company, as available to independent marketers.

For the independent jobber, the plan offers, according to Anderson-Prichard officials, the following five features:

1. An independent source of supply from an independent refining company which has no retail distribution and therefore does not compete with jobbers.

2. Exclusive territory for the jobber who accepts the plan.

3. A contract with the refiner which permits the jobber to meet competition in his territory, but which prevents him, on the other hand, from "making" competition.

4. A co-operative plan of advertising under the slogan "Hello, Neighbor."

5. An opportunity for the jobber to increase his local prestige and to place his name exclusively before his customers.

Anderson-Prichard officials point out that a jobber who joins the "Hello, Neighbor" co-operative plan will be given the exclusive rights in his territory. He will have no fear that another jobber there also will be a "Hello, Neighbor" participant. The jobber will be asked to sign a contract to obtain his supplies exclusively from Anderson-Prichard for a period of years. This contract, it was said, will be sufficiently flexible to permit the jobber to meet competition. Anderson-Prichard officials will have to approve all meeting of competition.

The advertising campaign will feature the jobber in all newspaper and radio and outdoor advertising. His name, and the names of his dealers, will be stressed. The refiner's name will not appear in any way.

The advertising costs will be handled on a co-operative basis. As the plan spreads, it was pointed out, the per gallon cost will be reduced. There also is provision for group buying of accessories on behalf of the independent marketers who accept the program.

Jobbers will be requested to adopt the plan also with reference to their dealers, under such arrangements that each dealer will be given an exclusive territory.

"This territory," the dealer will be told, "is yours. You will have no 'Hello Neighbor' competitor anywhere within that area. You will be mentioned in the advertising. You will be given co-operative assistance. Most important, you will be expected to know every gasoline and oil user in your territory; to know each one by sight and by name. You are to be able to greet each one as 'Neighbor.'"

In connection with the plan Anderson-Prichard has changed the name of its regular motor fuel to "Challenge." Participants in the "Hello, Neighbor" idea will use that brand name, but nowhere will Anderson-Prichard's name appear in connection with the brand name. Company officials have laid particular stress on that point.

Outlining the immediate plans for promoting the merchandising idea, C. L. Mayhall, vice president of the company, said that an effort will be made to sign old line, well established, independent jobbers who have been "home town builders" and who want to retain their identities in their communities.

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THERE'S A GOODYEAR BATTERY NOW!

● The growth of the natural gasoline industry in this country, from its beginnings in West Virginia to the present highly developed system worked out in East Texas and extending to a Gulf Coast refinery, where finished polymer gasoline and stabilized natural gasoline is turned out, is described in the accompanying article, by one who has had a great deal to do with the development of this branch of the oil industry in the Mid-Continent.

Characteristics of grades of natural gasoline figuring most actively in the export trade are discussed and there is also included a discussion of polymerization as opening a new field of activity for the natural gasoline industry.

By **D. E. BUCHANAN***

Presented before World Petroleum Congress, Paris, June 14-19.

Natural Gasoline

In the World Motor Fuel Market

FROM its very beginning the production of natural gasoline has been a conservation measure, as well as an adjunct and corollary of crude oil production. Except for that small, but increasing, proportion manufactured as a prerequisite of preparing natural gas for its domestic, industrial and carbon-black markets, practically all natural gasoline is produced from "casinghead gas" which has already served the very useful function of lifting crude oil to the earth's surface.

The term "casinghead gas" denotes gas produced in conjunction with crude oil, and is socalled because in the early days separation of the gas from the oil was made at the head of the casing through a device commonly called a "casinghead." The term is today applied generally to all oil well gas and distinguishes it from gas well or "dry" gas.

Previously such "casinghead gas" had served its economic purpose and had little or no further utility. Today natural gasoline plants, with their extensive gas gathering systems, collect the relatively small volumes of gas from a few to upwards of 2300 oil wells per plant, transport it to a central point, extract the commercially liquefiable hydrocarbons and then return the remaining dry residue gas to the oil producer for use in lease operations; or to gas utility systems, where such systems are near enough to make further utilization commercially and economically feasible.

History

The presence of gasoline in natural gas was first discovered in the early 1880's. Many operators of natural gas transportation systems experienced trouble with condensation in the lines. It was soon determined that this condensate was gasoline and draw-off drips were installed in low places and sags along the lines to accumulate and permit the removal of such condensate. As there was practically no market for gasoline as motor fuel at that time, the production was generally wasted. In some cases it was employed as boiler fuel on the oil leases, but its low monetary value for this use was no incentive for recovering it; it was simply a matter of eliminating an objectionable operating condition.

The business of collecting and marketing this socalled "drip" gasoline seems to have been first established in 1903. Of course, at that time extraction facilities were very crude, as they consisted only of utilizing the normal gas line pressure with the addition of a few cooling coils. In some instances the water in a creek or river which the line crossed served as the cooling medium. Naturally, none but the heavier hydrocarbon fractions were thus recovered. The product was collected in "iron barrels" and sold in the vicinity of Parkersburg, W. Va. for blending purposes.

From the time they discovered that liquid fractions would precipitate out of natural gas when subjected to pressure and subnormal temperature, and until about 1907, the field operators generally assumed that all gas contained gasoline or condensate in commercial quantities and quality, and many plants of various design were constructed. Tests for gasoline content were unknown and many were the devices employed in the efforts to determine just why some gas would yield gasoline and other gas would not. By the year 1909 methods of test had, however, been perfected to the point where operators could make a distinction between wet and dry gas, and, step-by-step, these methods have been improved until we have today's high standard of accuracy.

The early plants were generally built by lease operators who made provision to handle only such gas as was produced on their own leases, and it was not until some years later that gas was purchased for the purpose of gasoline extraction. As the "gasoline era" progressed and the demand for motor fuel increased, manufacturers commenced buying "wet" gas from adjoining leases and the natural gasoline industry was on its way.

The industry grew steadily, until, in 1911, it became of sufficient importance to attract the attention of the U. S. Geological Survey and, in that year, the survey initiated the compilation and dissemination of annual production figures.

An accompanying table compiled from the statistics of U. S. Government Bureaus is indicative of the industry's growth.

A sharp reduction in total value at plants is to be noted after 1926, although volume of production continued to increase, but this is commensurate with the reduction in retail sales prices of motor fuel and natural gasoline in the U. S. for the subsequent years.

Shortly after the turn of the 20th century the newly discovered oil fields in the Mid-Continent attracted the attention of the West Virginia pioneers. From experience gained in the earlier crude installations they were able to inaugurate many improvements in the first Mid-Continent plants. Their number multiplied yearly for a decade or more, when the absorption type of plant commenced to gain a foothold. The original California plants were built about the same time, but production amounted to very little until the discovery of the Los Angeles basin fields in the early 1920's.

As early as 1905 applications were filed for U. S. Letters Patent covering the extraction of gasoline from natural gas by the absorption method and, up to 1911, a great deal of experimental work was carried on by various operators. In 1913 a plant especially designed to operate under the new absorption method was constructed at Hastings, W. Va. and this was probably the first plant of any consequence making exclusive use of the absorption method.

In the early 1920's great improvements were made in this method and the production from this type of plant gradual-

*President, Hanlon-Buchanan, Inc., Tulsa.

ly outstripped the compression method, due to the fact that absorption was not only more efficient in extracting liquefiable fractions from gas of comparatively low gasoline content but also that the product was more stable in composition. However, in the late 1920's, it was found that combinations of both compression and absorption were, under some operating conditions, the most effective in making products of greatest utility.

The charcoal method enjoyed a brief period of popularity particularly in the West Va. fields, but the total production from this method was small and these operations are gradually fading from existence.

Public Utility Gas Pipeline Distribution Systems a Growing Source of Natural Gasoline Production

While natural gasoline was first discovered in natural gas transmission lines it is only in the past 10 years that this source of natural gasoline production has grown to importance. In this decade we have seen numerous gas pipelines of 20 inches, 24 inches, and even 30 inches diameter transporting gas from the point of production to industrial and domestic consuming centers 500 to 1000 or more miles distant. Today these lines transport well in excess of a billion cubic feet of natural gas per day and are prolific sources of natural gasoline since most, if not all, such gas must be treated for the extraction of the liquefiable hydrocarbons. This provides not only protection against condensation in the lines but tends to reduce the B.t.u. content of the gas to commercial standards, obviating the necessity for special burners.

A secondary source of natural gasoline production is the quantity extracted from so-called "sour" gas, or natural gas contaminated with sulphur compounds, making it unsuitable for fuel while still leaving it highly desirable to the carbon-black industry. Since upwards of a billion cubic feet per day of natural gas is burned to carbon-black, and since it is also desirable to extract the liquefiable fractions from such gas before combustion, we find a substantial contribution to the total production of natural gasoline from this source.

Evolution of the Natural Gasoline Plant

There are reported to be 850 natural gasoline plants in operation in the U. S. at this time. Plant investment is estimated in excess of $250,000,000 but an intelligent breakdown of plant investment or operating cost per unit of production is impossible because of the wide differences in operating conditions. We will cite typical cases to illustrate the extremes. Consider first a plant in the prolific East Texas field, drawing its supply of casinghead gas from over 2200 oil wells and returning residue gas to the leases. This particular plant has a network of 81 miles of gas gathering system, consisting of pipe sizes from 20 inches in the main trunk lines down to 4 inches on the leases. The return residue gas system consists of 45 miles of pipeline from 8 inches down to 2 inches, a total of 126 miles of pipeline of varying sizes.

At least 10 inches of vacuum must be maintained on the gathering system at plant intake in order to maintain as near atmospheric pressure, as possible, on the oil and gas separator at the well, because the slightest pressure at this point materially reduces the gasoline content of the gas. For this vacuum operation and for the compression of the gas to 50 lbs., the operating pressure of the plant, 21 compressors with combined rating of 3480 h.p. are employed. Contrast this operation with a plant extracting gasoline from the main line of a gas transmission system. No gathering lines. No return residue lines and the line pressure is utilized in the absorption operation.

It is thought a few high lights on an operation just now getting under way in the East Texas field might be of interest here. In 10 large natural gasoline plants, facilities have recently been installed to extract 98% of the butane content of the gas, which you will note from a table to follow is unusually high. In fact, the excess in butanes over and above the amount required for 18 lbs. natural gasoline is about equal in volume to the 18 lbs. natural gasoline content of the gas.

These 10 plants process a total of 90 million cu. ft. of casinghead gas per day from 14,000 oil wells, utilizing 533 miles of vacuum gathering lines and return the residue gas for lease operation through 322 miles of pipeline. 98% of the butane content plus a varying, but small, percentage of the propane and lighter fractions is extracted along with the normal natural gasoline yield to make a product with vapor pressure ranging from 45 lbs. to 85 lbs. absolute, depending upon the amount of propane desired for polymer operation and the lighter components of the gas extracted incidentally therewith. The total production of this "raw" product is collected at a central point in the field through 60 miles of liquid gathering system where it is delivered to a 300-mile trunk line for transportation to a large refinery on the Gulf Coast.

Pipeline discharge at destination is through high pressure fractionators from which the overhead product consisting of N-Butane and lighter goes directly to a polymerization plant, the bottom product, stabilized natural gasoline, to storage for cargo shipment.

Here we see a perfectly synchronized operation continuously processing the production of casinghead gas from approximately 14,000 oil wells embracing a territory 35 miles long and from 3 to 12 miles wide, utilizing 1215 miles of pipeline, turning out finished polymer gasoline and stabilized natural gasoline of desired specifications 300 miles from the scene of production. May I say this is a far cry from the day when the West Virginia pioneer washed his mittens in the "pesky stuff" and wondered what in the world anyone would ever do with it?

From their embryonic beginning the number and total daily capacity of gasoline plants in the U. S. gradually and constantly increased to a peak of about 1229 plants in 1928. At that time the total daily capacity of plants was just under 8 million gallons (approximately 20,000 tons). From 1928 to date the total number of plants has gradually decreased, while their total capacity in terms of gallons of daily production has continued to increase, so that today it is estimated there are some 850 plants with a total daily capacity of over 10 million gallons (approximately 25,000 tons).

Exhaustion of gas supply forced the abandonment of a number of plants, but the combination of depleted gas volumes available to plants built for flush conditions, prior to proration of crude oil production, coupled with a most drastic decline in the f.o.b. plant value of the product, left only the choice of complete abandonment of a great many more small plants or consolidation into fewer large plants where it was possible to more nearly hold operating costs in line with sales prices.

The term "drastic" is mild when used in connection with decline in value of the product. Many of the plants had been built during periods of flush production when natural gasoline sold for 20 cents to 22 cents per gallon f.o.b. plant, and of course, they could not weather the economic storm which drove prices down to less than 2 cents per gallon in 1932.

Prior to the inauguration of effective flush production control, the present day proration, when a new field was discovered, rapid development was the order of the day with little or no restriction on oil-gas ratios. Natural gasoline operators often times proceeded with the construction of plants upon the completion of a very few wells, the number of completed wells considered as justifying plant installation depending upon the operator's individual faith in the new field. The race to build gasoline plants was generally in keeping with the race to drill oil wells. Frequently by the time a plant was completed, the field had either proven a sad disappointment or development had gone far beyond expectation, and the plant was inadequate to handle the supply of gas.

The former meant early abandonment and the consequent financial loss. The latter, either immediate increase in plant capacity or paying for gas which could not be processed. Generally speaking, the initial period of operation saw the peak of production and rapid dissipation of gas supply, through wasteful methods of crude oil production, hastened the day when the plant must be abandoned or consolidated with other plants experiencing the same difficulty.

Proration as Affecting Natural Gasoline Development

Under proration, as today practiced, the scientific control of oil-gas ratios and orderly field development makes possible a more accurate estimate of oil and gas in place before a decision as to the practicability of a gasoline plant must be

Growth of the Natural Gasoline Industry in U. S.

Year	Number Plants	Output, Metric Tons	$ Value At Plant	% U. S. Motor Fuel Prod.
1911	176	18,565	750,000	No Data
1916	596	258,740	14,331,148	5
1921	1161	1,184,160	69,626,800	9
1926	1063	3,392,000	129,710,080	10
1931	987	4,578,000	55,677,600	11
1936	859	4,600,000*	65,000,000*	10

*Estimated.

reached, and the plant may be built for a more uniform flow of gas over a long period of time rather than for a peak load of short duration. Proration of oil and gas has its adverse effect upon the natural gasoline manufacturer in that he must handle lower gas volumes per well, consequently a larger number of wells, entailing greater expenditure in gas gathering systems, and in many fields back pressure maintained on the wells to control the flow of oil, decreases the gasoline content of the gas. This, however, has the effect of discouraging the construction of many small plants and delays the construction of the larger ones with the result that plants built today are upon a more secure economic foundation than in the days of hit and miss.

Until the early 1920's one of the greatest deterrents to the development of wider markets for natural gasoline was the inability of plant operators to eliminate propane from their product. This constituent was of course most undesirable as a component of motor fuel, and the crude so-called "weathering processes" were very inefficient. The general practice was to apply steam heat to the product under very slight pressure until the desired amount of propane had been weathered off. The product was almost never made propane free. As these conditions of operation introduced no fractionation whatever, the procedure resulted in large percentages of the butanes, pentanes, and even heavier hydrocarbons being lost to the atmosphere, thereby increasing the manufacturing cost of the remaining marketable production.

The application of selective fractionation, or "stabilization", as it is now commonly known, which reached commercial proportions in 1925-26, was therefore one of the most important technological developments in the natural gasoline industry. The original installations, so-called "low pressure stabilization", operated at a maximum of 40 lbs., but the art was very soon extended to higher pressures —140 lbs. to 175 lbs.—depending upon characteristics of charging stock and finished product desired.

Patent suits over the use of these processes were numerous, but their ultimate settlement by court decree cleared the way for the production of propane free natural gasolines with predetermined composition characteristics, including substitution of N-butane for iso-butane, within the limits of the hydrocarbon content of any gas processed. With improvements in cracking processes, total cracking capacity increased rapidly. This development was followed by numerous and wide spread vapor lock complaints from the motoring public. The solution was, of course, stabilization and since the art as then being practiced in the natural gasoline industry was applicable and available, it was promptly and generally adopted.

Vapor recovery plants are now found in practically all refineries of any size. No statistics are available as to the amount of product recovered through these operations in refineries, but it represents a tremendous volume, most of which finds its way to motor fuel and serves to augment the supply of volatile gasoline constituents, the demand for which would otherwise fall more heavily upon the natural gasoline industry. It is safe to say that "stabilization" of natural gasoline and refinery vapors has had a profound influence on the upward trend of motor fuel volatility, because the elimination of propane and iso-butane has made possible the incorporation of larger percentages of normal butane, a very desirable constituent of motor fuel in proper proportion.

Specifications

Selective fractionation of liquefiable hydrocarbons made possible today's vapor pressure and distillation grading system for natural gasoline and this grading system has encouraged a widespread and intelligent utilization of the products of this industry the world over.

Variation of Hydrocarbon Composition of Natural Gasoline

Since there is presently little natural gasoline available to world markets outside of the U. S. from territories other than the Mid-Continent and Gulf Coast fields, we will confine our discussion of composition and quality characteristics to the natural gasolines now generally assembled from those fields for the cargo markets.

The actual liquefiable content of natural and casinghead gas varies over a wide range of volume and hydrocarbon composition, depending on the source of production, conditions of pressure under which the casinghead gas is separated from the crude oil, and to a minor extent on type and efficiency of plant extraction facilities.

Table No. 1 gives the hydrocarbon composition of three distinct types of casinghead gas and one type of gas well

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gas which constitute the source of a very large percentage of the natural gasoline available to the Mid-Continent-Gulf Coast cargo market.

tillation data, representing typical average specifications of that grade, are probably more enlightening:

TABLE No. 1
Typical Gas Analyses

		E. Texas (Casing-head Gas)	No. Texas (Casing-head Gas)	North La. (Combined Gas Well & Casing-head gas)**	Panhandle (Typical Gas Well Gas)
Methane	Mol %	41.40	59.37	92.53	87.13
Ethane	"	15.80	16.16	3.85	5.85
Propane	"	24.20	14.78	1.57	4.25
Iso-Butane	"	2.80	1.92	(	.55
N-Butane	"	9.70	3.68	(1.09	1.20
Iso-Pentane	"	2.00	(	(	.48
N-Pentane	"	2.00	(	(	.26
Hexane plus	"	2.10	(4.09	(.96	.28
		100.00	100.00	100.00	100.00
G. P. M. 26 lb.*		3.28	2.52	.60	.39
G. P. M. 22 lb.*		2.93	2.27	.56	.35
G. P. M. 18 lb.*		2.63	2.05	.52	.31

**Typical of N. Louisiana Production. *Natural Gasoline (Reid V.P. @ 100°F.).

Since space does not permit us to present here analyses of all the different composition types of Mid-Continent natural gasoline, we have taken the following three groupings as representative of cargo shipments; but since, in this area, natural gasoline is usually evaluated in terms of 26 lb. vapor pressure, (Reid @ 100°F.) we first present in Table No. 2 the distillation characteristics of typical average 26 lb. grade for these three groups.

TABLE No. 2

	Low Volatil.	Medium Volatil.	High Volatil.
Vapor Pressure (Reid @ 100°F.)	26 lb.	26 lb.	26 lb.
Gravity (deg. A.P.I.)	78-82	82-85	84-90
Octane Number	72 or less	74-78	80-85
Evaporated at 38°C.	5-10%	20-30%	35-45%
60°C.	35-45%	55-70%	70-85%
100°C.	70-80%	85-92%	93-97%
Endpoint	185°C.	175°C.	165°C.

Since the 18 lb. vapor pressure grade is probably the most popular in cargo markets, outside the U. S., the following distillation data, representing typical average specifications of that grade, are probably more enlightening:

TABLE No. 3

	Low Volatil.	Medium Volatil.	High Volatil.
Gravity Pressure (Reid @ 100°F.)	18 lb.	18 lb.	18 lb.
Gravity (deg. A.P.I.)	77-81	80-84	84-88
Octane Number	65-70	71-74	75-78
Evaporated at 38°C.	5-10%	15-25%	30-40%
60°C.	30-40%	50-65%	68-80%
100°C.	70-80%	82-90%	91-96%
Endpoint	185°C.	175°C.	165°C.

The following hydrocarbon composition analyses are representative of the three grades covered by Table No. 3 as commonly available from the Mid-Continent field for cargo shipment.

TABLE No. 4

	Low Volatil.	Medium Volatil	High Volatil.
Vapor Pressure (Reid @ 100°F.)	18 lb.	18 lb.	18 lb.
Gravity (deg. A. P. I.)	77-81	80-84	84-88
Octane Number	65-70	71-74	75-78
Hydrocarbon Composition: (Vol. %)			
Iso-butane	1.0- 2.5%	0.5- 1.5%	0.0- 1.0%
N-Butane	17.5-20.0%	16.5-19.5%	14.0-15.0%
Iso-pentane	6.5-12.0%	12.5-17.5%	25.0-30.0%
N-pentane	15.0-25.0%	20.0-25.0%	20.0-25.0%
Hexanes plus	45.0-60.0%	41.5-46.5%	30.0-40.0%

It is obvious that some considerable leeway must be allowed for octane number and hydrocarbon percentages when reducing the many points of product origin to three groups. It will be noted these tables show an increase in octane number with increasing front end volatility. This is to be expected due to the higher octane value of the lighter constituents. There are, however, a few plants, principally on the Gulf Coast, which produce a product of relatively low volatility yet a high octane number. Examination shows this to be due to the presence of aromatics, napthenes, and/or certain branch chain paraffins, characteristic of the crude oils from the same fields, but the production of such plants is comparatively small and of little influence on specifications, particularly of cargo shipments.

As more specific in respect to hydrocarbon composition, we present analyses of typical East Texas and Breckenridge (North Texas) natural gasolines with their respective distillation characteristics.

(See Table 5 and Table 6 on next page)

Motor Fuel Volatility Trends

True conservation embraces the best possible utilization of products or matter, hence, knowing that N-Butane and the pentanes are very desirable components of motor fuel, intensive research has been directed toward development of the ideal fuel and developing and adapting the ideal

In view of the summer months just ahead

it is natural to assume a tremendous market for petroleum products will be created.

Gasoline stocks have been moving in good quantities and a better demand is expected.

The independent dealer can be assured of a definite source of supply at all times based on quality materials. Your inquiries are appreciated.

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Refineries: Oil City, Pa.; Emlenton, Pa.; Farmer's Valley, Pa.; St. Mary's, W. Va.
Ocean Terminals: Baltimore, Md.; Tiverton, R. I.; Dorchester, Mass.; Carteret, N. J.; Edgewater, N. J.; Glastonbury, Conn.; Philadelphia, Pa.

TABLE No. 5

Typical East Texas Natural Gasoline

Fractional Anal.		26 lb. V.P.*	18 lb. V.P.*
Iso Butane	Vol. %	1.23	....
N-Butane	"	35.26	14.42
Iso Pentane	"	24.15	31.66
N-Pentane	"	20.37	28.06
Hexane	"	10.22	13.97
Heptane plus	"	8.77	11.89
		100.00	100.00
Dist. Characteristics			
Gravity (deg. A.P.I.)		91.	86.4
Octane Number		84.	78.
Evaporated at 38°C		55%	33.
60°C		85%	77.5
100°C		96%	95.5
Endpoint		151°C.	154°C.

*(Reid @ 100°F.)

TABLE No. 6

Typical Breckenridge (North Texas) Natural Gasoline

Fractional Anal.		26 lb. V.P.*	18 lb. V.P.*
Propane	Vol. %	.08	....
Iso Butane	"	1.54	1.04
N-Butane	"	30.95	14.05
Iso Pentane	"	10.59	13.25
N-Pentane	"	20.25	25.45
Hexanes plus	"	36.59	46.21
		100.00	100.00
Distil. Characteristics			
Gravity (deg. A.P.I.)		87.5	82.5
Octane Number		81.5	75.
Evaporated at 38°C		40.	27.5
60°C		72.5	65.
100°C		92.5	91.5
Endpoint		157°C.	160°C.

*(Reid @ 100°F.)

internal combustion engine to it. Definite progress is indicated by the following table, which compares distillation characteristics of the "regular" or "house brand" motor fuels marketed by a large number of representative refiner-distributors throughout the Greater Mississippi Valley States from Great Lakes to the Gulf, winter of 1936-37 compared with winter of 1932-33, averaged to basis of approximate quantity distributed.

	1932-33	1936-37
Oct. No.	65	70
I. B. P.	94°F.	88°F.
10% Evap. @	135°F.	120°F.
20% " @	167°F.	145°F.
50% " @	246°F.	227°F.
90% " @	365°F.	355°F.
Endpoint	405	403
Recovery	96 plus	96 plus
Vapor Pressure	9.4 lb	10.4 lb.

Note particularly the increase in front end volatility and vapor pressure. The exhaustive studies now in progress and projected for the early future covering fuel systems, compression ratios, cooling systems, vapor locking characteristics and anti-knock ratings by actual road tests under the supervision of such organizations as the American Petroleum Institute, American Society for Testing Materials, Co-operative Fuel Research Steering Committee, Society of Automotive Engineers, Western Petroleum Refiners Assn., U. S. Bureau of Standards, California Natural Gasoline Assn., Natural Gasoline Assn. of America and others, all actively concerned in these problems, promise continued progress toward their ultimate solution.

Additional Conservation Fields

A vast amount of research has been directed toward the conversion of the lighter waste hydrocarbons to various synthetic products, such as alcohols, ketones, benzol, toluol, acids, aldehydes, and such condensation products as bakelite, etc. The reaction of these lighter hydrocarbons, at elevated temperatures and pressures, with and without the aid of catalysts is well known, but this field offers slight promise of commercializing any appreciable quantity of these hydrocarbons, potentially available, because of the competition of other source materials and the rather limited market, from a volume standpoint, for the finished products.

The first commercial development, of any consequence, of markets for byproducts from the manufacture of natural gasoline was the adaptation of the liquefied petroleum gases to domestic use, such as for space and water heating, cooking, etc., and later for industrial use, such as gas enrichment, heat treating metals, and as motor fuel specially equipped trucks, buses, locomotives and stationary engines. Here again hope of these markets consuming any worth while percentage of the potential supply does not seem justified.

Polymerization, just now in the initial stages of commercial application, may however, prove of great benefit to the natural gasoline industry. The rather limited literature available at this time indicates that installations for the polymerization of the saturated hydrocarbons, butane and propane such as are produced as byproducts in the manufacture of natural gasoline, may only be economically feasible where large volumes are available at a central location and such locations are rather few and far between.

Present day yields do not seem to provide sufficient return on plant investment to cover rail transportation of the raw material to the processing plant and leave anything for the manufacturer of the raw material. It is anticipated, however, that, with further perfection of the processes of polymerization, installations will be made in most of the large refineries wherein, particularly the unsaturates in the butane series which are now being incorporated in motor fuel as well as the propane series which are now being burned as fuel, will be polymerized, opening the way for the utilization of additional quantities of natural gasoline, and of higher than today's allowable butane content, in order to replace the volatility now being supplied by the refinery vapor recovery systems.

All of these developments are of great interest to the natural gasoline industry, in fact to the entire petroleum industry and the consumer as well, because of the prospect of commercial utilization of these light hydrocarbons which are now surplus above motor fuel volatility requirements in their normal state and are, likewise, undesirable fractions in commercial natural gas. Although the practicability of utilizing butane-propane as motor fuel in especially equipped internal combustion engines has been satisfactorily demonstrated, it is probable that processes above mentioned will eventually consume sufficient of these waste hydrocarbons as will discourage the further multiplication of the already overbuilt retail motor fuel distribution and dispensing facilities which would have to be of special design to handle the products under high pressure and therefore quite expensive to install.

I am not including any estimate of the potential supply of butane-propane which could be made available for these specialized uses as that subject will most certainly be covered in discussions of the development of the various processes for the synthesis of light hydrocarbons.

Boy and Slate Come to Life In Billboard Campaign

CLEVELAND—The familiar Boy and Slate sign that has identified the retail outlets of the National Refining Co. for 20 years, comes to life in a new national billboard campaign which the company has inaugurated.

The boy of the sign has come to life, not as an animated cartoon, but a real boy, shooting marbles, swimming, fishing, playing ball—yet instantly recognizable as the boy pictured on the slate.

Charles L. Archbold, advertising manager of the company and creator of the original Boy and Slate idea, as well as author of the sayings and philosophies which these boards at its stations have carried since their inception, made the following comments on the new adver-

One of the series in the billboard campaign, in which the National Refining Co. brings to life the famous "Boy" of its station signs

MONOGRAM

announces a

NEW FRANCHISE

including sales rights to the new

PANHARD

and

MEDALLION

MOTOR OILS

Panhard is priced for the great intermediate market.

Medallion is priced for fleet owners and bulk users who require a good oil at a still lower price.

Both products are solvent processed oils, refined from selected crudes by a special method of our own which rates them higher in lubricating value than any other oils of equivalent price now on the market. This is not talk but a matter of laboratory record which is easily confirmed.

This company's line today therefore includes a motor oil of the utmost excellence for every price division of the market. And every distributor of these products is guaranteed a profitable territory with complete protection of his selling rights therein.

For complete information concerning this new franchise write in on your own letterhead addressing—

FRANCHISE DEPARTMENT

NEW YORK LUBRICATING OIL CO.

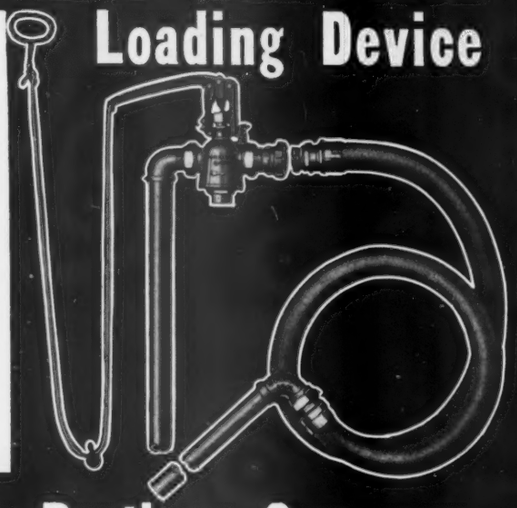
116 BROAD STREET • NEW YORK • U. S. A.

Sales Offices and Warehouses • NEW YORK • PHILADELPHIA • CHICAGO

MORRISON

Under Surface Truck Tank Loading Device

● Will quickly pay for itself in savings on vaporization losses. Supplied with vacuum breaker valve. 8′ length, 2″ hose and couplings and brass fill tube 4′, 6″ long. Write for New Morrison Catalog and Prices.



Morrison Brothers Company

OIL EQUIPMENT HEADQUARTERS

DUBUQUE, IOWA

Happy Motoring

ESSO STATION

NOT CONNECTED With Standard Oil Company (Indiana)

Supplies and services are available at the Esso signs identifying thousands of American and foreign filling stations, selling motor fuels and lubricants from the world's largest refineries and most extensive petroleum research and development laboratories.

ESSO, INC.
26 Broadway, New York

The word ESSO is "A sign of service and a symbol of quality"

ESSO—for Premium Motor Fuel ESSO MOTOR OIL—for Premium Motor Oil
ESSOLENE—for Regular Motor Fuel ESSOLUBE—for Regular Motor Oil

tising campaign:

"When we decided to go into billboard advertising on a national scale, we naturally wanted to use the Boy and Slate as an identifying feature. However, in its well-known form it does not lend itself to poster advertising—can not become a part of the picture and especially of the action.

"The solution seemed to be for the boy to cease to be a sign and to be transformed into a real boy. Yet we could not afford to lose the Boy's great good-will value. To do both seemed well-nigh impossible.

"It is easy to caricature a well-known figure and keep it still easily recognizable; but to reverse the process and create a boy which might be recognized as the original of the cartoon was truly a difficult task.

"How well it has been done is evidenced by a glance at any of the present series of White Rose posters. All the characteristics of the Boy with the Slate are there, yet this new interpretation is a real person typical of boyhood."

New Building for "Co-op" Blending Plant

INDIANAPOLIS, June 12.—A modern two-story brick and concrete oil blending plant under construction here for United Co-operatives, Inc., will be completed July 1. It will replace the blending plant built 10 years ago by the Ohio, Michigan, and Indiana co-operatives. The new plant will have an annual capacity for compounding 5,000,000 gallons of oil, as compared with 1,000,000 gallons for the old plant.

Space has been provided for installation of paint manufacturing equipment, and also to carry on other activities pertaining to the processing of various supplies which are distributed by the several member co-ops.

The equipment for blending oils is to be moved to Warren, Pa., where it will be put into service to provide supplies for co-operatives in eastern territory.

Several new members have been added to the Farm Bureau Oil Co., which last year changed its name to United Co-operatives, Inc. Among the newer members are: Pennsylvania Farm Bureau Co-operative Assn., Harrisburg, Pa.; Consumers Co-operative Oil Co., Sauk City, Wis.; Co-operative G. L. F. Farm Supplies, Inc.; Ithaca, N. Y.; Farmers Co-operative Exchange, Raleigh, N. C.; Southern States Co-operative, Richmond, Va.; and the Maryland Farm Bureau, Inc., Baltimore. The Farm Bureau Co-operative Assn., Columbus, O., is a charter member of the organization.

DETROIT, June 12.—Alvan Macauley president of the Packard Motor Car Co., was re-elected president of the Automobile Manufacturers Assn. at the annual meeting of that organization here June 3. Alfred P. Sloan, Jr., chairman of the board of the General Motors Corp., was elected first vice president.

At the meeting it was announced that the automobile industry's total retail sales of passenger cars and trucks for the first four months of this year amounted to 1,502,963 units, eclipsing any corresponding period in the history of the industry.

New Patents

Compiled by R. E. Burnham, patent and trademark attorney, 511 Eleventh Street, N. W., Washington, D. C., from whom copies may be obtained at the rate of 25c each. State number of patent and name of inventor when ordering.

April 27, 1937

REFINING

Catalytic conversion of higher-boiling hydrocarbons into lower-boiling hydrocarbons—Eugene J. Houdry, Paris, France, assignor to Houdry Process Corp. Filed May 11, 1932. No. 2,078,247.

Countercurrent contactor — Clarke C. Miller, Wood River, Ill., assignor to Standard Oil Co. (Ind.) Filed Mar. 21, 1935. No. 2,078,403.

Method of treating hydrocarbons—Bernard Ormont, New York, N. Y., assignor to Bernard Ormont Associates, Inc., same place. Filed Sept. 21, 1933. No. 2,078,407.

Treating hydrocarbon oils—William E. Stratford, New York, N. Y., assignor to Texas Co. Filed Nov. 16, 1932, No. 2,078,468.

Method for converting hydrocarbons—John S. Harrison, Cleveland Heights, Ohio, assignor to Standard Oil Co. (Ohio). Filed Dec. 2, 1930 . No. 2,078,493.

Device for reclaiming used crankcase oils — Clarence W. Troxell, Milwaukee, Wis. Filed Sept. 4, 1934. No. 2,078,818.

Method for preparation of fuel oil—Rufus L. Savage, Jr., Port Arthur, Tex., assignor to Texas Co. Filed June 13, 1934. No. 2,078,882.

Cracking process — Harold Sydnor, Westfield, N. J., assignor to Standard Oil Development Co. Filed July 23, 1932. No. 2,078,899.

* * *

The following on processes for breaking petroleum emulsions to Tretolite Co. as assignee of the inventors:

Melvin De Groote, St. Louis, and Bernard Keiser, Webster Groves, Mo. Filed June 6, 1936. Nos. 2,078,652 and 2,078,653.

De Groote. Filed June 8 and 13, 1936. Nos. 2,078,654 and 2,078,655.

MISCELLANEOUS

Preventing corrosion of metals in aqueous systems—Eugene Lieber, Elizabeth, and William H. Smyers, Westfield, N. J., assignors to Standard Oil Development Co. Filed Aug. 22, 1934. No. 2,078,256.

Delivery manifold for tank vehicles—John A. Jefferson, Belmont, Mass. Filed July 10, 1934. No. 2,078,384.

Mothproofing compositions of matter—Theron P. Remy, Los Angeles, Calif., assignor to Texas Co. Filed June 23, 1934. No. 2,078,458.

Lubricating oil — Charles C. Towne, Poughkeepsie, N. Y., assignor to Texas Co. Filed Aug. 3, 1934. No. 2,078,472.

Oil dispensing apparatus—Ivan L. Eastman, Bryan, Ohio, assignor to Aro Equipment Corp., same place. Filed Sept. 5, 1933. No. 2,078,486.

Process of treating acid liquors—Anton J. Tulleners, Amsterdam, Netherlands, assignor to Shell Development Co. Filed June 17, 1935. No. 2,078,516.

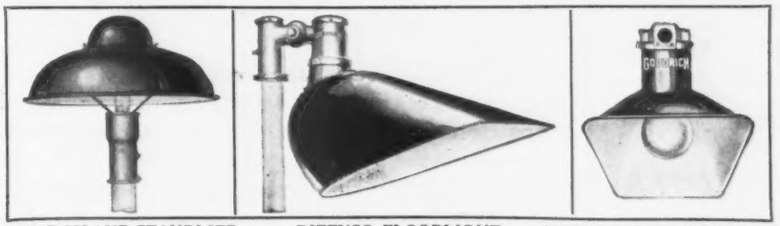
Cyclic acetals and process for producing—Herbert P. A. Groll and George Hearne,

"INCREASE YOUR GALLONAGE WITH GOOD ILLUMINATION"

—*Says* SUNNY LUMENS *the Goodrich Reflexpert*

"You'll be surprised at the difference it makes in flagging down customers! Modernizing with light will double the night business of the average service station—and that's not just my idea—it's the claim of experts who study the problem and prove the case. Bright illumination signals the approaching motorist in plenty of time—gives him a chance to ask himself if he doesn't need gas—allows him to stop before he passes you up—makes him remember you the next time he comes your way. That's what builds business."

GOODRICH REFLECTORS



PUMP ISLAND STANDLITE — DIFFUSO FLOODLIGHT — KEYSTONE SIGN REFLECTOR

Goodrich specializes in lighting equipment for service stations. In this complete Goodrich line you'll find equipment to fit every requirement for floodlighting, sign lighting, pump island illumination, lift lighting, as well as show windows and interiors.

ASK FOR THIS SPECIAL CATALOG FOR SERVICE STATIONS

Send us a post card today and we'll send you a copy of this new catalog (No. 62) which describes the full line of Goodrich equipment for service stations and gives you many helpful suggestions.

GOODRICH
ELECTRIC COMPANY
OFFICES IN ALL PRINCIPAL CITIES
GENERAL OFFICES AND FACTORY: 2905 NORTH OAKLEY AVE., CHICAGO, ILL.

AN

Integral Part

OF

THE NEW YORK THAT MATTERS

In the very midst of important New York and with direct connection to Grand Central, The Biltmore offers the luxurious comfort, distinctive atmosphere, and deft, flawless service of a fine, well-ordered home.

WORLD-FAMOUS DINING ROOMS

THE BILTMORE

David B. Mulligan, *President*

Madison Ave. at 43rd St., N. Y.

Adjoining Grand Central

THE ONLY DOMESTIC OIL BURNER WITH PATENTED DOUBLE-HEAT

★ Increase your fuel oil sales with the dependable, service-free Bettendorf **DOUBLE-HEAT** Burner. The only Domestic Oil Burner with the Patented **DOUBLE-HEAT** Feature.

★ Bettendorf Burners are recognized as the finest example of oil burners on the market today. Be in a position to cash in on the dependable performance reputation that has been established by Bettendorf **DOUBLE-HEAT** Burners. Write for complete information regarding our liberal offer to fuel oil distributors. You can't afford to overlook the many sales-building advantages of the Bettendorf **DOUBLE-HEAT WAY OF HOME HEATING.**

★

★

★

MICRO-WESTCO, INC.,
90 West St., New York City
332 So. Michigan Ave., Chicago

BETTENDORF, IOWA
224 State St., Boston
1420 Chestnut St., Philadelphia

BETTENDORF

OIL BURNERS

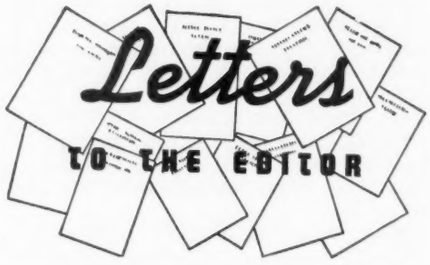
Berkeley, Calif., assignors to Shell Development Co. Filed May 25, 1935. No. 2,078,534.

Motor fuel—Hendrik B. J. Schurink, The Hague, Netherlands, assignor to Shell Development Co. Filed Nov. 26, 1935. No. 2,078,736.

Coating fuel to prevent dusting and product thereof—Per K. Frolich, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed Dec. 12, 1931. No. 2,078,755.

Wood preservative oil—August Holmes, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed June 6, 1933. No. 2,078,570.

Method of reclaiming spent "doctor" solution — Evert T. Pummill, Augusta, Kans., assignor to Socony-Vacuum Co. Filed Oct. 5, 1935. No. 2,078,773.



Dear Mr. Platt:

Permit me, after nearly five years of opposite opinions than yours, to say that for once in a lifetime we have reached the same principle at least. By all this I am referring to a section in your editorial of May 12th issue, under the caption of "Profits, not Gallonage."

This editorial as it is written should be the foundation for a really gigantic industry to wake up and realize exactly what it takes to be successful. Even the laborer of today is trying to get as much as possible for as little as possible, so why should not the oil industry wake up, and make up its mind that it's high time that we all start making a legitimate profit and not take business at any cost merely to keep the other man from getting a chance at some of the business (or gallonage).

Some time ago I corresponded with your representative of Chicago, Mr. E. L. Barringer, and in a letter to him I insisted that the industry needs education along the lines as your present editorial advocates. A trade paper as yours, and as well as the Gasoline Retailer, should be able to render a great service to its readers and advertisers as well, in combining your circulation influence toward such an educational program.

A rule that should be established in this business is, LIVE AND LET LIVE. This one should replace the one now so predominant in this industry, of DOG EAT DOG.

If ever in your travels you come to St. Louis I would appreciate if you would call at my station so that we could exchange ideas and perhaps in my mind you will not be considered as you have been in the past.

Again allow me to thank you for such an editorial as the one mentioned, and that you use your circulation to further such an educational program.

David W. Shaw,
Shaw Service Station
St. Louis

TRADEMARKS

The following are trade mark applications pertinent to our field pending in the United States Patent office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the National Trade-Mark Company, stating that you are a reader of this journal.

Pub. Apr. 13, 1937

AQUAGRAF, Ser. No. 388,393. Grafo Lubricants Corporation, Sharon, Pa. Filed Feb. 1, 1937.

For Lubricating Oil and Grease Compound.

CONSUMERS, Ser. No. 388,433. Consumers Oil Company, Baltimore, Md. Filed Feb. 2, 1937.

For Petroleum Products—Namely, Lubricating Oils, Lubricating Greases, Transmission Greases, Fuel Oils, and Gasoline.

ESKIMO, picture of Eskimo's head, Ser. No. 382,004. Michael B. Roy, Bridgeport, Conn. Filed Aug. 10, 1936.

For Defrosters for Automobile Windshields and the like.

3-M, Ser. No. 389,656. Minnesota Mining & Manufacturing Company, St. Paul, Minn. Filed Mar. 4, 1937.

For Polishing Wax for Furniture, Woodwork, Linoleum, Rubber or Asphalt Tiles, and Lacquer Polishes for Automobile Finishes.

MIRPO, Ser. No. 389,044. Samuel Steinberg, doing business as Mirpo Products Mfg. Co., La Porte, Ind. Filed Feb. 17, 1937.

For Polish having Incidental Cleaning Properties Recommended for Polishing and Finishing Silver, Gold, Platinum, and Other Metals, and Glass, China, Marble, Hard Enamels, and Similar Materials.

* * *

Pub. Apr. 20, 1937

ZOOP, Ser. No. 388,616, Johns-Manville Corporation, New York, N. Y. Filed Feb. 6, 1937.

For Industrial and Household Cleaning Compound for Automobiles, Automobile Equipment, Machinery, Engines, Floors, Clothing and Textiles, and the like, said Cleaning Compound being a Solvent for Oils and Grease.

NON-GLARE, Ser. No. 386,655. Non-Glare Chemical Company, Evanston, Ill. Filed Dec. 11, 1936.

For Cleaning Preparation for Glass, Nickel, Silver, Porcelain, Enamel, and the like.

LES-F-ORT, Ser. No. 386,663. Earl F. Rulison, doing business as Less Effort Products Co., Chicago, Ill. Filed Dec. 11, 1936.

For Hand Cleanser, All Purpose Cleanser having Incidental Water Softening Properties, and Automobile Dry Cleaning Compound.

KELITE, picture of key and sun, Ser. No. 389,463. Kelite Products, Inc., Los Angeles, Calif. Filed Feb. 27, 1937.

For Cleaning Powders, Cleaning Paste, Cleaning Fluids, and Soaps.

PARATAC, Ser. No. 388,855. Standard Oil Development Company, Linden, N. J. Filed Feb. 12, 1937.

For Chemical Compound for Improving the Viscosity Temperature Relationship of Lubricating Oils.

ADDA-DRAWER, Ser. No. 381,841. The Imperial Brass Manufacturing Company, Chicago, Ill. Filed Aug. 5, 1936.

For Assortments of Accessories—Namely, Couplings, Valves, Cocks, Flexible Metal Charging, Gas, Oil, Grease, and Vacuum Lines and Fittings Therefor, Packed for Sale and for Display in Drawer Cabinets.

WHITMORE'S PRESSURE - PROOF LUBRICANTS, Ser. No. 385,321. The Whitmore Manufacturing Company, Cleveland, Ohio. Filed Nov. 9, 1936.

SAVES MONEY 9 WAYS
EARNS MONEY 2 WAYS
and Costs Less to begin with

● You may take it for a fact that if you haul 5 tons or more,

TRUXMORE

will save money and make money for you. The proof of this statement, partly an engineering explanation, partly the evidence of hundreds of TRUXMORE users is too long to be detailed in this advertisement, but not too long or too complicated for you to perceive easily from literature we'll gladly send you.

One TRUXMORE user calculates his savings at $12 PER ROUND TRIP for each truck. Can any company afford *not* to investigate such an addition to its profits? The largest users of TRUXMORE are the fleets of companies that keep accurate cost records such as Shell, Sinclair, Armour, Borden, Brady Transfer and others.

Under any Truck

9 WAYS TRUXMORE SAVES MONEY

Saves Gas
Saves Oil
Saves Tires
Saves Maintenance
Saves Insurance
Saves Taxes
Saves Depreciation
Saves Breakage
Saves Accidents

2 WAYS TRUXMORE EARNS MONEY

Carries Bigger Payload
Carries More Payload miles per day

and TRUXMORE
Costs Less to Begin With

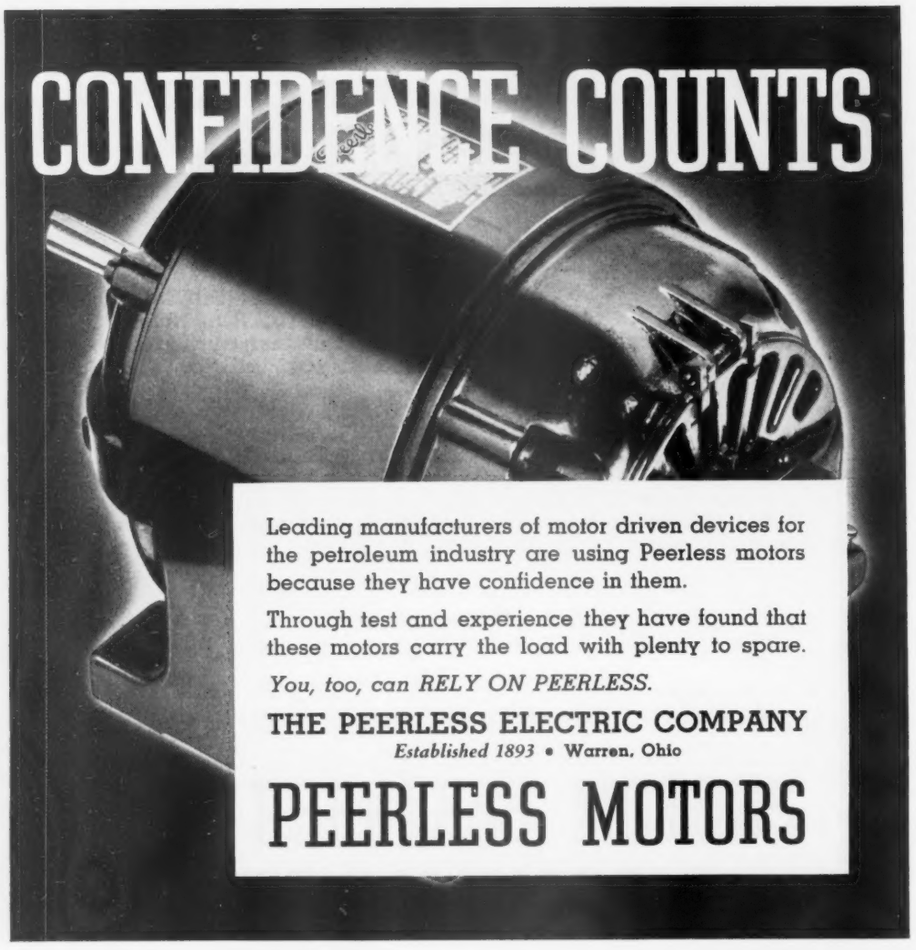
Returning this coupon is the first step toward making these savings for your company. Mail it today!

TRUCK EQUIPMENT CO. Inc., Dept. G, Buffalo, N. Y.
You've made some strong statements. Can you prove them?

Name ..... Position .....

Company .....

Address .....


CONFIDENCE COUNTS
Leading manufacturers of motor driven devices for the petroleum industry are using Peerless motors because they have confidence in them.
Through test and experience they have found that these motors carry the load with plenty to spare.
You, too, can RELY ON PEERLESS.
THE PEERLESS ELECTRIC COMPANY
Established 1893 • Warren, Ohio
PEERLESS MOTORS

New Book on Motor Oils

"Motor Oils and Their Application," a new book by G. A. Zamboni, has a spread of interest that goes considerably beyond the subject of motor oils. It is written for the layman in non-technical language.

The book includes such fundamental information as the origin of crudes, natural characteristics of asphalt and paraffin base oils, solvent refining, re-refining and analysis of used crankcase oils, S.A.E recommendations and their significance, the high speed diesel engine, viscosity index and many other interesting subjects.

The book is of especial interest to station operators, repair men, fleet operators, motor oil salesmen, students, and in many cases to individual car and truck owners.

The book contains 75 figures, charts and illustrations, including many which explain the various functions motor oil performs in addition to lubricating the moving parts of the engine.

Send check for your book today. The price is $3 per copy.

National Petroleum News

1213 W. Third St. Cleveland, Ohio

New Equipment

And The Manufacturer

Seven National Pump Co. meter pumps have been installed in the master super service station recently completed by the Hickok Oil Corp. at Jefferson and Twenty-third streets, Toledo. The station has been designed to offer a wide line of service with prompt handling. The pump islands are equipped with signal devices to announce the approach of cars on the drive. Two water dispensing units are located on each island also.

The exterior of the station is of white glazed tile and the entire interior is buff glazed tile. A special 40-foot pit, entered through a high door, enables the servicing of a complete truck and tractor. Glass brick construction along the entire side of the building insures an abundance of light to the car washing department.

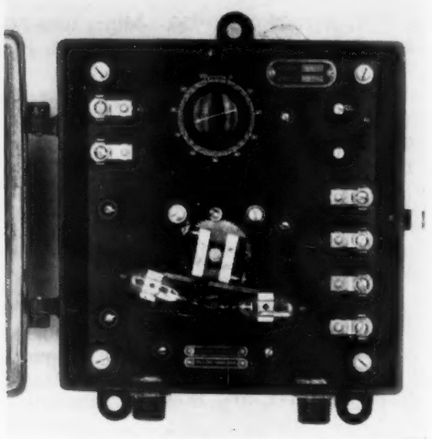
* * *

Robert Lee Swats, who as vice president of LaSalle Extension University developed sales training systems widely used by oil companies, announces the establishment of R. L. Swats & Associates, Field Bldg., Chicago. The company will offer sales training service and counsel.

* * *

Anticipates Temperature Change

For use with automatic pyrometer controllers, a device to enable the controller to anticipate and prevent temperature changes and correct the fuel consumption long in advance of change, is announced by The Bristol Co., Waterbury, Conn.



The B-Linator can be used with most types of pyrometer controllers, it is said, and can be added to present installations.

Several new bulletins on recording and controlling gauges have been issued and are now available. These include Nos. 483, 484, 485, and 486.

* * *

New Autocars

Two new short-wheelbase truck models have been announced by the Autocar Co., marking the completion of this company's program to extend its line into the light duty field. The gross vehicle weights are 13,500 and 16,000 pounds. Wheelbases are 84, 106, and 124 inches.

After years in the heavy duty field, Autocar last November brought out two medium-duty models, and early last

spring announced two light models in conventional design. The two now announced carry these light-duty models into the short wheelbase design.

* * *

Exides at Coronation

Ten tons of Exide batteries were used in broadcasting the coronation ceremonies from London according to word received by J. F. Kelly, Jr., export manager, The Electric Storage Battery Co., Philadelphia.

* * *

Compressors

Improved opposed steam-driven compressors are being offered by Worthington Pump & Machinery Corp., Harrison, N. J. Dual cross-head design, tie-rods that maintain all piston strains in exact line with the connecting rod, a uniform flywheel and counter-weighted running gears, are featured. Details are given in an illustrated 20-page bulletin (L-612-B3) which is available.

* * *

Auxiliary Transmission

Popularity of Watson-Brown-Lipe auxiliary transmissions among operators of tank trucks is a contributing factor to another increase in headquarters office accommodations of the H. S. Watson Co., San Francisco. The 12 forward speeds offered by the auxiliary transmission is said to offer economy advantages over conventional 4-speed hauling, especially with the so-called light trucks being accepted for heavy work. Eastern territory is being supplied by the Spicer Mfg. Co., Toledo.

* * *

Lycoming Sales Manager

J. T. McFarland has been appointed sales manager of the Natural Gas Engine Division of Lycoming Mfg. Co., Williamsport, Pa., it has been announced by President E. D. Herrick.

Mr. McFarland is well known in the diesel and gas engine fields and for the past 18 years has been associated with Worthington Pump & Machinery Corp.

* * *

Opaco Division of the American Machine & Metals, Inc., New York, is introducing a new hot oil flusher, for flushing both hypoid and spiral bevel gears. The new unit is electrically heated, portable and operates on a vacuum-pressure system. The upper tank, which is insulated, contains the hot oil for flushing. The lower tank is the reservoir for the old oil. The oil in the upper chamber is heated while oil is drained from the differential.

* * *

Motor Pumps

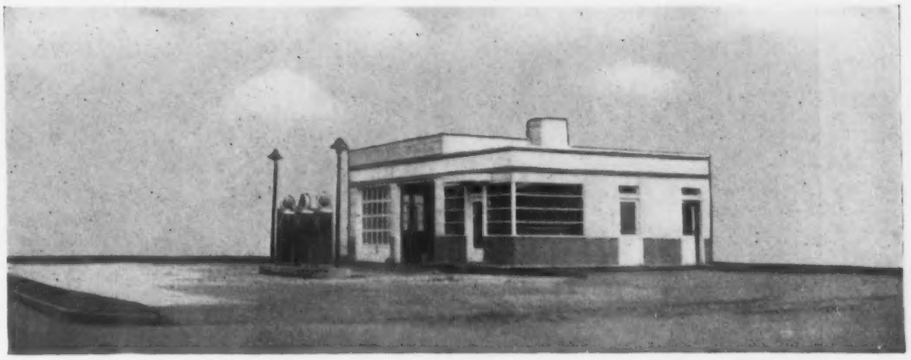
Ingersoll-Rand Co., New York, has just issued a new catalog describing its Cameron Motorpumps. These are centrifugal pumps combined with electric motors in a single unit. Capacities range from 5 to 1000 gallons per minute for heads of 500 feet. Motor sizes range from ¼ to 40 hp.

* * *

Gas Indicator

A new bulletin describing the MSA combustible gas indicator, a self-contained, portable instrument used for testing explosive gas hazards and locating leaking gas, is announced by the Mine Safety Appliances Co., Pittsburgh.

INCREASED PROFITS



MAXIMUM SALES

FROM NEW OR REBUILT STATIONS DESIGNED BY PARK

Let PARK design a station that will increase your sales. He will build it specially for your needs to fit your pocketbook.

Prefabricated Buildings and Building Materials

Engineering & Construction Service

Service Stations, Auto Show Rooms, Warehouses, Bulk Plants

Financing on Major Leases

Write, wire, or phone for details

The W. A. PARK Corp.

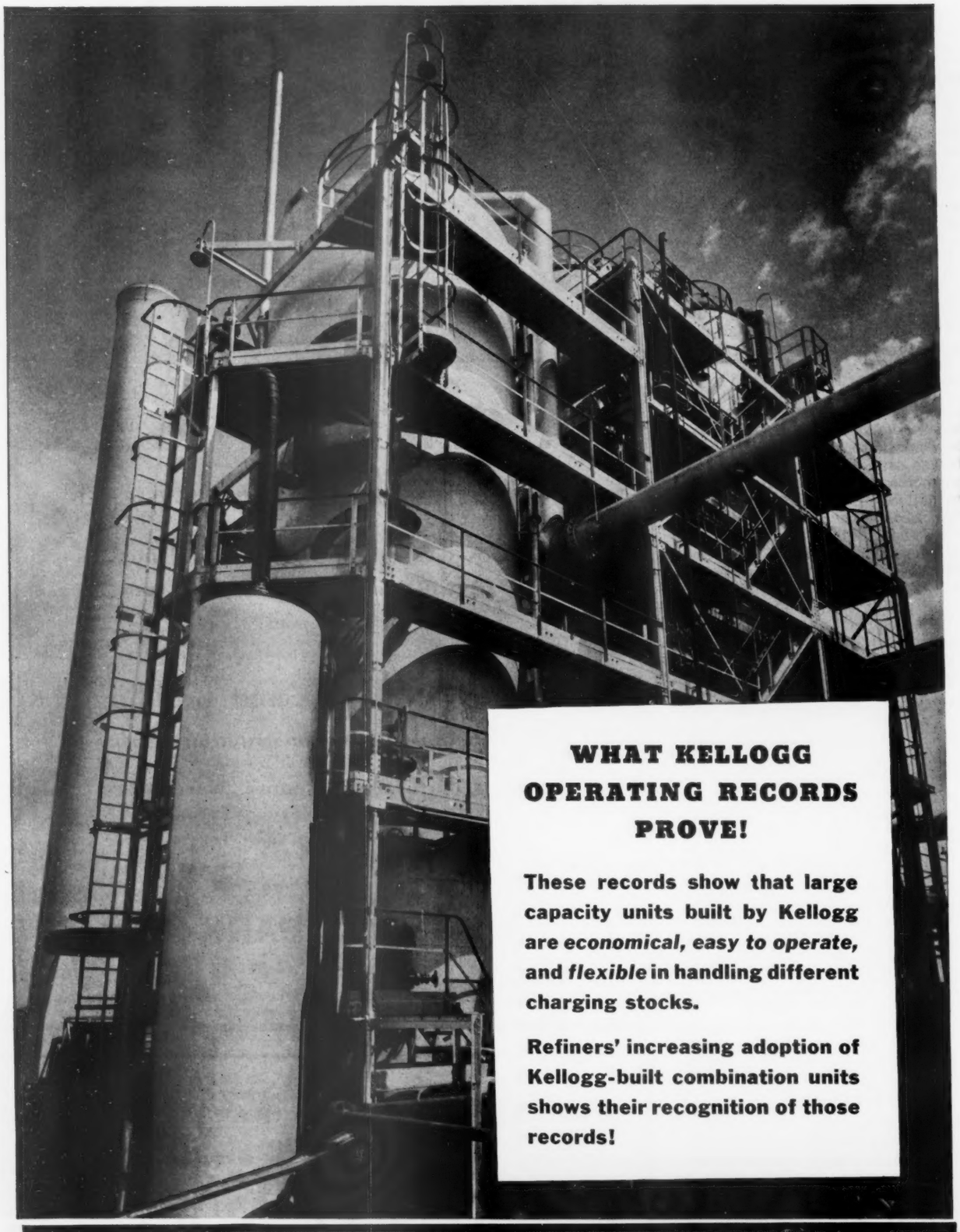
Angola, Indiana

ARE YOU ONE OF THE

1,000 OIL MEN
Who Get Lower Rates

From NATIONAL PETROLEUM MUTUAL
FIRE INSURANCE COMPANY

225 So. 15th St. Philadelphia, Pa.



WHAT KELLOGG OPERATING RECORDS PROVE!

These records show that large capacity units built by Kellogg are *economical, easy to operate,* and *flexible* in handling different charging stocks.

Refiners' increasing adoption of Kellogg-built combination units shows their recognition of those records!

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Petroleum Technology

Technology, Like Music, Is A Universal Language

By ARCH L. FOSTER, Technical Editor

A FEW years ago a successful, rule-of-thumb oil executive, disposed to look with jaundiced eye on some of the new-fangled innovations which "these college fellers" were introducing into the delicious chaos of hit-and-miss methods by which the industry had thrived, or in spite of which it had progressed rapidly in earlier days, remarked acidly, "The trouble with this business is that there's too D—ed many engineers in it." We wonder what that executive thinks, or would think, of the prospect and the implications of the Second World Petroleum Congress, meeting this week in Paris?

A congregation of the leading engineers of the world, speaking several languages, faced by different problems in the same industry, they have the common meeting ground-the problems of an industry world-wide in its extent. These problems can be solved only by the universal solvent—science. The hundreds of papers, in a half-dozen languages or more, cover practically every phase of petroleum technology. They do not say the problems are solved; every paper that has come to our attention is essentially a report of progress, a planting of a milestone to show how far each particular group has progressed along a given, unknown route. Your scientist never knows when he is finished—because he is never finished. The more he learns about subject or product the more he sees the need for learning and the more acute is his knowledge of the smallness of the fund of information he has gathered, as compared to the sum total of scientific data which must be obtained.

In this one meeting the most active brains of the industry are gathered or are represented; the original work which these papers sum up runs into the millions of man-hours of concentrated labor. Gus Egloff, as refining division chairman, brought 32 papers by different authors, to sum up the progress in America. A huge number of papers on the same lines are contributed by technologists from other countries to the same forum. Note the relative importance of the subjects as indicated by the number of papers on each, in this American contribution. The various phases of fuel problems brought ten papers; lubricants are treated in seven papers; cracking art and technology is represented by six papers, with two each on asphalts, chemicals, acid, pipelines, and one on electrical de-salting methods.

Combined with papers from other scientists in Europe, these papers may be considered the summation of our explorations to date in the fields of finding, producing, refining and utilization of petroleum, probably the most indispensable non-edible raw material in the modern world. Most significant to the future of petroleum and the human race probably are the two papers on chemicals produced from hydrocarbons, "Chemicals Derived from Pentanes," by Kendall, and "Organic Chemicals from Petroleum and Natural Gas," by Cooke, Wagner and Swanson. In this field the usefulness of petroleum has barely been touched. We know so little of the possibilities, the ways and means in comparison to the extent of knowledge which must be gained before hydrocarbons can be really efficiently utilized. But a good start is being made; these and others are in the position of pioneers, blazing trail for those who come after. We are becoming a chemical industry.

Yet it is doubtless not from the written papers themselves that we shall derive the greatest impetus to advancement of technology at such meetings. It is rather the comparison and exchange of ideas by individual contacts and the creation of new ideas and suggestions by this intercontact, which will really recompense men and companies for the time and expense incurred in the trip abroad. To see how others are tackling a job, to observe their accomplishments, methods, and equipment, to hear their ideas of what may be done, of what results should be obtained; these contacts generate thinking, show new procedures by which a knotty problem may be attacked. And new ideas cannot be bought, or ground out of a mill like sausages or cement. They come from an active mind, from contacts with other minds, the continuous looking at a problem from new angles.

In fuels and lubricants we have new and far-reaching lines of development—extremely high octane number superfuels, to power the until recently unheard-of types of air-

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The first complete presentation of how sulfur is removed from refinery still gases and converted to sulfuric acid by this new process.

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High grade fullers earth, efficiently handled and reactivated in modern type burners, provides a most economic filtering material. Conditions are brought out where bauxite type adsorbents are advantageous.

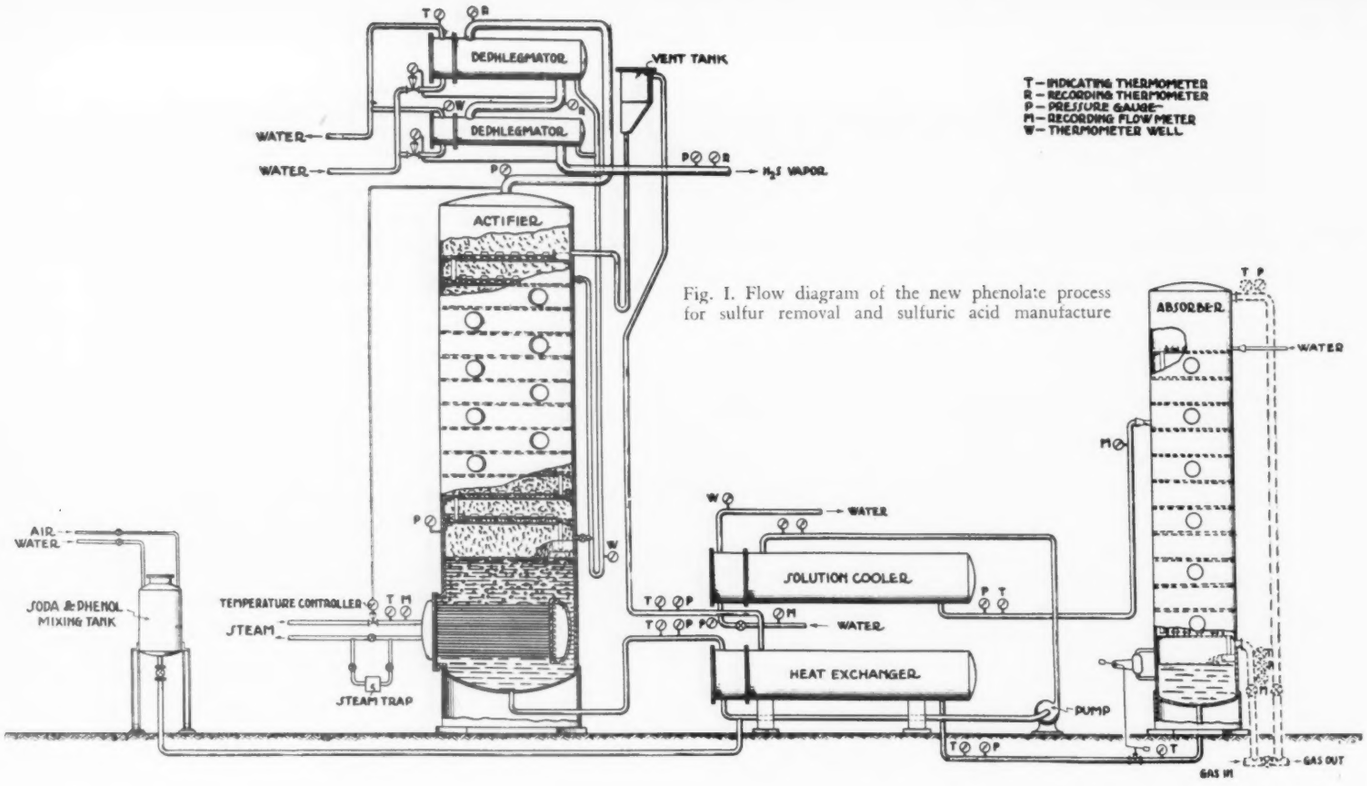


Fig. I. Flow diagram of the new phenolate process for sulfur removal and sulfuric acid manufacture

The Phenolate Process

For Sulfur Removal and Sulfuric Acid Production From Refinery Still Gas

By ALFRED R. POWELL*

Presented Before Second World Petroleum Congress, Paris, June 14-19

● The total operating cost of the phenolate process per ton of sulfur recovered as H_2S gas, is $6.90, according to this author. The unit described processes 16,600,000 cu. ft. of refinery gas per day, removing 40 tons per day of 98% H_2S gas, which is sent to an acid plant for conversion to sulfuric acid, used in refining operations.

A strong sodium phenolate solution is used, first absorbing H_2S from the gases, and then being regenerated by driving off the hydrogen sulfide by contact with hot vapors, isolating the sulfide and recovering the solution for reuse. The plant described is that of the Standard Oil Co. of California, at El Segundo. Other plants are in process of construction.

WITHIN the last several years, an improved method for the purification of refinery-still gas and other gases has been developed by the Koppers Co. This is known as the Phenolate Process, and not only does it secure more than 95 per cent removal of hydrogen sulfide from the gas, but there is also produced a valuable product in the form of hydrogen sulfide gas of a high degree of purity that may very profitably be utilized for the production of sulfuric acid and for other purposes.

For several months a Phenolate Process plant has been in operation at the refinery of the Standard Oil Co. of California, at El Segundo, near Los Angeles. Hydrogen-sulfide removal has been better than 96 per cent, and, at full capacity, about 40 tons of hydrogen sulfide per day are produced. This hydrogen sulfide gas is piped to an acid plant, where it is converted into sulfuric acid. It is the purpose of this paper to describe the process generally, and also briefly to describe this El Segundo installation.

Although the removal of sulfur from refinery still gas is now practiced in only a small percentage of petroleum refineries, there is at present a rapidly growing demand for more purifying plants, and within several years refinery-gas purification may be the rule rather than the exception. There are several reasons, based on necessity, economy, desirability, or a combination of these, why this trend to more extensive purification of refinery-still gas will continue.

When refinery gas is sold for distribution by a public utility for use in homes and industries, the sulfur content of this distributed gas is limited to a very low figure by legal re-

*Chief chemical engineer, engineering and construction division, Koppers Co., Pittsburgh.

quirements. In the United States, the various states usually specify that the gas shall contain substantially no hydrogen sulfide, and the organic sulfur content is also limited to a very small amount. In such cases, the refinery gas must always be treated for removal of hydrogen sulfide, whereas the organic sulfur is nearly always sufficiently low in the gas to require no special treatment for its removal, according to Jacobson (1929)[1].

Refinery gas that is to be used for chemical processing, whether for the recovery of organic chemicals or for the production of gasoline by one of the various polymerization processes, is preferably treated for removal of hydrogen sulfide before being delivered to the processing plant. When the gas containing hydrogen sulfide is converted into gasoline by polymerization of the hydrocarbons, the hydrogen sulfide is largely converted into mercaptans and other organic sulfur compounds, and removal of the sulfur in this form from the gasoline is considerably more costly than is the extraction of hydrogen sulfide from the gas before it passes to the polymerization unit. Furthermore, as will be pointed out later, the recovery and utilization of this hydrogen sulfide as a by-product is quite profitable, whereas the mercaptans are wasted after their removal from the gasoline and consume rather expensive treating agents.

In many cases, the removal and recovery of hydrogen sulfide from refinery gas may be economically justified from the standpoint of recovering hydrogen sulfide as a valuable product without any regard to the benefits of purifying the gas. The validity of this statement will be shown later in connection with the description of the Phenolate Process plant of Standard Oil Co. of California at El Segundo, California. This particular plant was built with this sole object in view.

And last but not least, the resulting improvement in atmospheric conditions in the vicinity of a refinery serves as an incentive for the purification of high-sulfur refinery gas that is burned under the stills. When unpurified gas is burned at the refinery heavy concentrations of sulfur dioxide and sulfur trioxide are discharged through the stacks and these fumes often settle to the ground, causing discomfort and undesirable working conditions for the workers in the neighborhood of the stills. In a moist climate, these fumes of sulfur trioxide often affect visibility, and thereby serve as a hazard to safety. Furthermore, these fumes may be carried by the wind for considerable distances, causing complaints in communities several miles away. Obviously, the removal of the sulfur from the gas before it is used for heating the stills will eliminate these conditions.

Occurrence of Sulfur in Refinery Gas

As has just been pointed out, nearly all of the sulfur in refinery gas is present as hydrogen sulfide H_2S. A very small amount of organic sulfur, mostly mercaptans, is also found in this gas.

In England and the United States it is common practice to express the hydrogen sulfide content of gas as grains per 100 cubic feet of gas saturated with water vapor at 60° F. and under an absolute pressure of 30 inches of mercury. Under these conditions, one per cent by volume of H_2S in gas is equal to 635 grains of H_2S per 100 cubic feet. One gram of H_2S per cubic meter of gas at 0° C. and 760 mm. mercury is equal to 41.8 grains of H_2S per 100 cubic feet at 60° F. and 30 inches mercury.

The hydrogen sulfide content of refinery gas varies between wide limits, and is largely dependent on the amount of sulfur in the crude oil used at the refinery. The probable limits are 100 grains as a minimum and 5000 grains per 100 cubic feet as a maximum. A fairly typical figure is 1000 grains per 100 cubic feet.

Historical

The removal of hydrogen sulfide from manufactured gas intended for city distribution has necessarily been carried on since the inception of the gas industry. In the earlier days lime was the purifying agent, while later an improved process was developed based on the use of hydrated iron oxide. Neither of these processes were well adapted to the purification of refinery gas, especially when the gas was high in sulfur and under high pressure.

A new process of gas purification, known as the Seaboard Process, was introduced by the Koppers Co. in 1920. The hydrogen sulfide is absorbed from the gas by a rather dilute solution of sodium carbonate, which is continuously regenerated for further use by sweeping the hydrogen sulfide out of the foul solution by a current of air in another step of the process, and then returning this regenerated or "actified" solution to again absorb H_2S from the gas. Because this process used a liquid as the absorbing medium, it was comparatively simple to apply it to the purification of refinery gas under high pressures and containing large quantities of H_2S. Since the development of the Seaboard Process over 60 installations have been made, several of which are devoted to the purification of refinery gas.

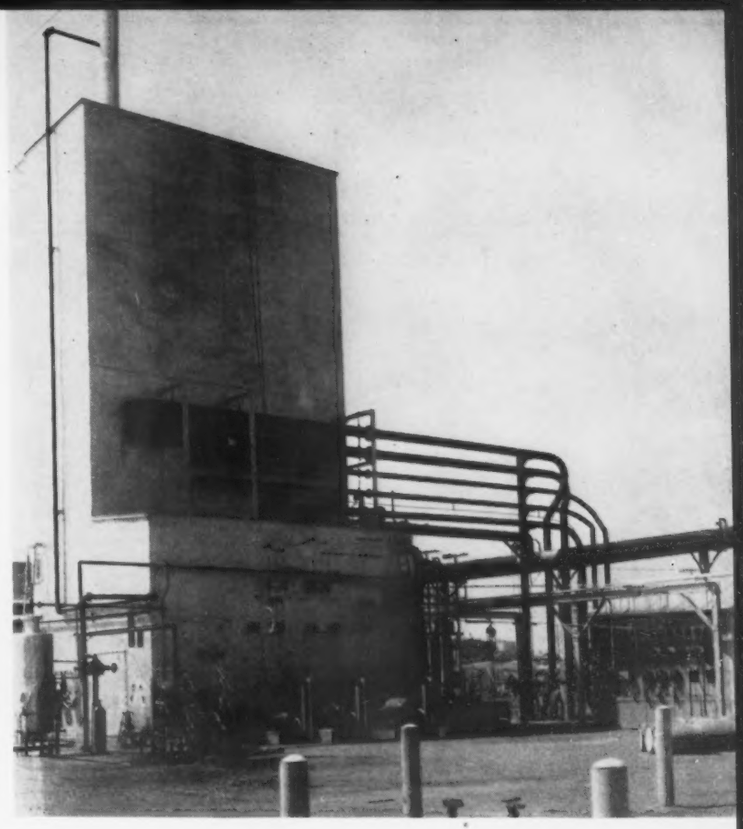


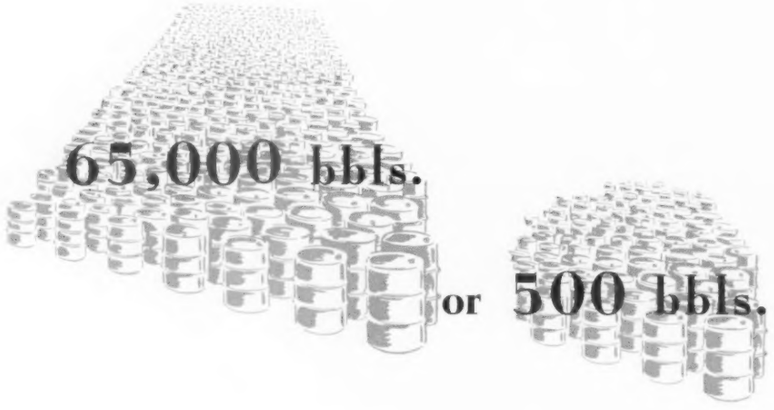
Fig. 3. General view of the phenolate process plant of the Standard Oil Co. of California at El Segundo

Sperr (1921),[2] (1923)[3] has thoroughly described the Seaboard Process, and numerous other later publications have described specific plants and later developments. Jacobson (1929)[1,4] has described the practical application of the Seaboard Process to refinery and natural gas specifically.

Although the Seaboard Process has been by far the most popular liquid purification process for removal of H_2S from gas, due to its simplicity and economy, it possesses the disadvantage of discharging the H_2S removed from the gas directly into the atmosphere. Since the discharged H_2S is diluted with the very large volume of air used for regeneration of the foul solution, there can be no practicable recovery of the sulfur as a by-product, and, in addition, this discharge of H_2S into the atmosphere may be objectionable in some localities. In some plants, this objection has been overcome by putting the actifier air under boilers, producers or coke-oven settings, whereby the H_2S eventually burns to sulfur dioxide.

This somewhat objectionable feature of the Seaboard Process was overcome by the later development of several other liquid purification processes that did not discharge the H_2S into the air but recovered the sulfur as a finely divided form of solid sulfur that could be sold as a by-product. The three most important of this type of process are the Ferrox Process (Sperr, 1926)[5], the Nickel Process (Cundall, 1926)[6], and the Thylox Process (Gollmar, 1929)[7], (Jacobson, 1929)[8], (Colbert, 1930)[9], (McBride, 1930)[10], (Denig, 1933)[11], (Gollmar, 1934)[12], (Powell, 1936)[13].

Although these processes use somewhat different solutions for the absorption of the H_2S from the gas, they utilize a similar principle of operation. The foul solution, after ab-



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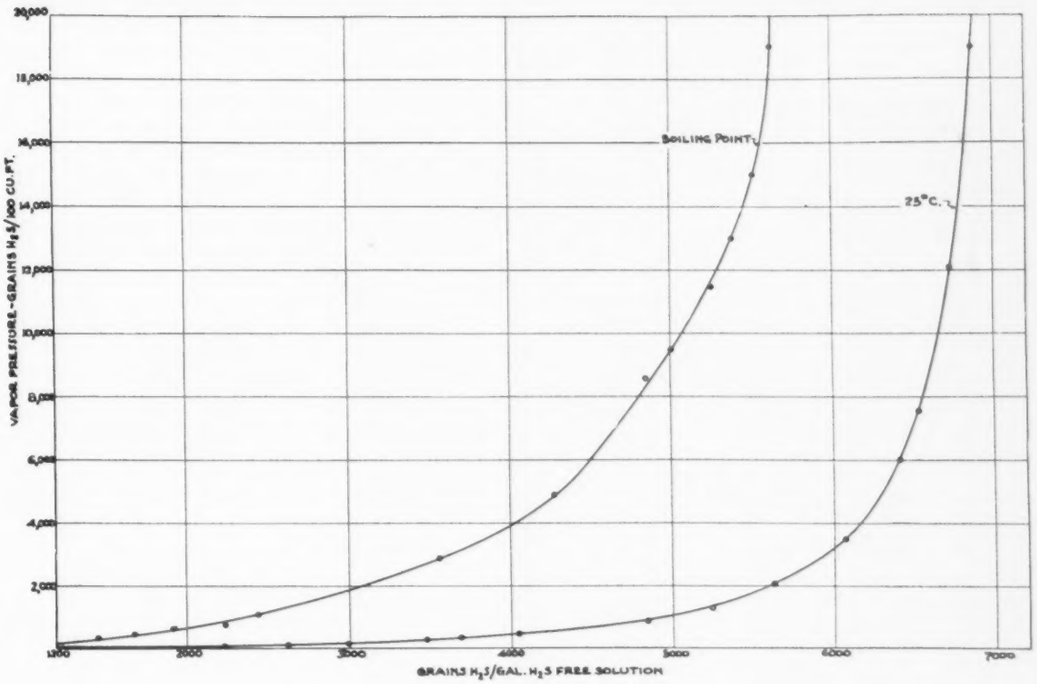


Fig. 2. Curves showing relationship between the vapor pressure of H_2S and the H_2S content in phenolate solution

sorbing H_2S from the gas, is contacted with air. However, this air does not mechanically sweep out the H_2S, as in the Seaboard Process, but a chemical reaction results that causes oxidation of the combined sulfur, and free sulfur is carried to the surface of the solution as a finely-divided suspension, which may be filtered out and the sulfur recovered as a by-product.

Although this type of process has found extended practical application in the purification of coal gas and water gas, it has not yet been applied to refinery gas, although there is no reason why it cannot be used to advantage for the purification of refinery gas in some cases, especially where the gas is relatively low in sulfur and under low pressure.

A third general type of liquid purification processes is often referred to as the "hot actification" system. The name comes from the nature of the regeneration or actification step, which is carried out by boiling the foul solution and/or passing steam or vapor through it, thereby expelling the H_2S, which may then be recovered as concentrated hydrogen sulfide gas, after condensing the steam or vapor which carries it. The actified solution from the regeneration stage then passes back to the absorber to remove H_2S from the gas again, thereby completing a continuous cycle.

Various solutions and suspensions have been used or suggested for this type of purification process. The Espenhahn Process (1934)[14] uses a solution of sodium carbonate and is now in commercial use to some extent. Suspensions of magnesium hydroxide have been used (Sperr, 1925)[15], (Hall, 1925)[16]. The Girdler Process (Bottoms, 1931)[17] makes use of solutions of certain organic amines.

The Borate Process (1933)[18] calls for the use of a solution of potassium or sodium borate. Another recently patented hot-actification process uses a solution of potassium phosphate (1934)[19].

The Phenolate Process, a rather recent development of the Koppers Co., has been described in the patents of J. A. Shaw (1936)[20], as well as in other patents of the Koppers Co., and was briefly described several years ago in the literature by Denig and Powell (1933)[21]. This is of the hot-actification type, and the absorbing liquid is a concentrated solution of a phenolate, usually sodium phenolate. The present paper describes this development more completely, especially as regards large-scale commercial application of the process made since the date of the earlier paper.

Lack of space forbids reference to all of the hot-actification processes that have been proposed or used. Denig and Powell (1933)[21] gave a review of liquid purification processes of all types developed and described up to that date (1933).

Description of Phenolate Process

Theory. It is well recognized that any continuous cyclic operation involving absorption of a gas constituent by a liquid in one stage and desorption (i. e., regeneration or actification) of the same gas constituent in another stage must be maintained in a proper "balance" between the two stages in order that the operation may remain continuous. For example, if a solution of sodium hydroxide were used for the absorption of H_2S from gas, the reaction between the solution and H_2S would proceed most vigorously for a short time, but would soon cease due to the exhaustion of the alkali. Also, the regeneration of this exhausted solution would be most difficult and would involve the use of huge quantities of steam or other energy input that would probably make such a process uneconomical. This lack of balance may be corrected by adding to the caustic soda or other alkaline solution an auxiliary acidic constituent that will decrease to some extent the vigor of the absorption step of the process but that will correspondingly increase the ease and economy of operation. As stated before, a proper balance between these two stages is quite essential for such a continuous cyclic process.

One fact that must be considered in hot-actification type processes is that the acidity of H_2S increases with temperature. Nearly all weak acids show this tendency to increased acidity as the temperature rises, but unfortunately hydrogen sulfide displays this property to a greater extent than most weak acids. This increase in acidity with increasing temperature tends to make the regeneration or actification of the solution more difficult since actification is carried on at the boiling point of the solution, whereas absorption takes place at ordinary temperatures. In choosing an auxiliary acidic constituent, it is therefore most desirable to obtain one which would increase in acidity with temperature at an equal or greater rate than does H_2S. Under these conditions, the auxiliary acidic constituent would strongly compete with the H_2S for the alkali at the high temperature of the actification stage, and would thereby tend to "crowd out" the H_2S, which would be highly desirable.

It so happens that phenol (also cresols, etc.) meets the above condition to an almost ideal degree. The molecular heat of electrolytic dissociation for H_2S is -6060 calories. This high negative heat of dissociation confirms the previously made statement that the dissociation or acidity of H_2S increases greatly with temperature. For phenol the figure for the same characteristic is -6100 calories.

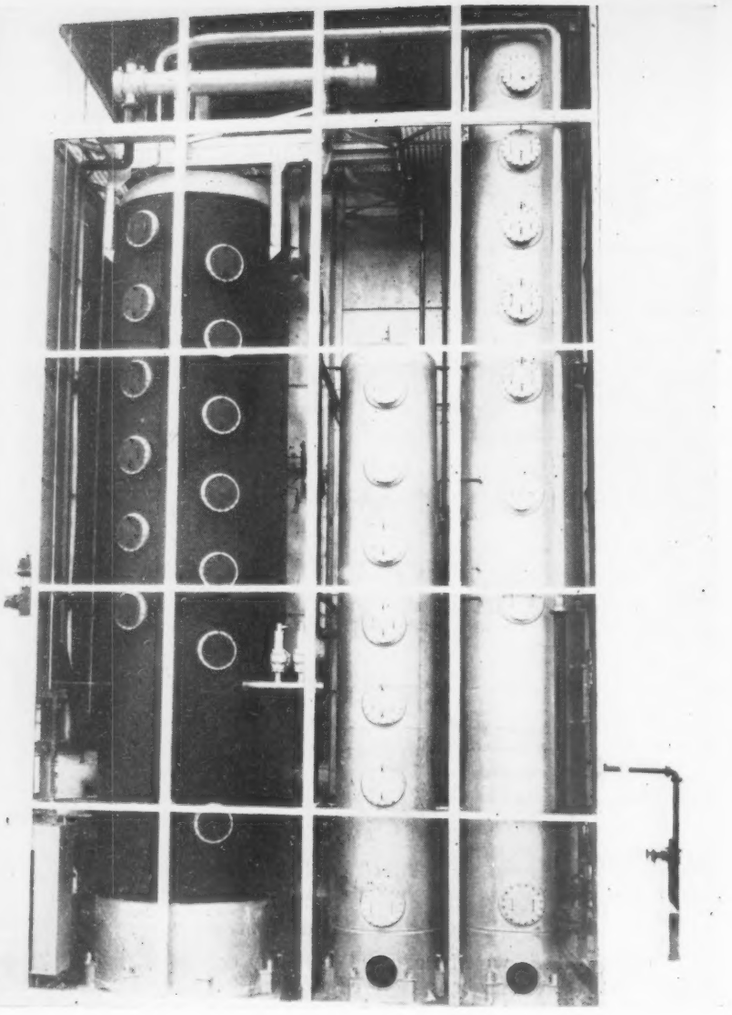


Fig. 4. Towers inside a steel shell at the El Segundo phenolate process plant

In addition to the above desirable property of the auxiliary acidic constituent, its acidity or electrolytic dissociation constant at absorption temperature should be less than for hydrogen sulfide, in order to allow hydrogen sulfide to displace it and be absorbed in the absorption stage. This condition is satisfied by phenol since its electrolytic dissociation constant is 1.3×10^{-10} while that for H_2S is 5.7×10^{-8}, both being at the same temperature and concentration.

From this brief description of the theory underlying the choice of phenol as the auxiliary acidic constituent of the solution, it can be readily seen that there are very excellent theoretical grounds for the preferred use of phenolate solutions for the hot-actification type of process, in addition to the practical operating results to be described later.

The essential chemical reaction of the Phenolate Process may be expressed in the following equation:

$$NaOC_6H_5 + H_2S \rightleftarrows NaHS + C_6H_5OH.$$

During the absorption stage, the reaction proceeds to the right, during the actification stage, to the left.

Method of Operation

The operation of the Phenolate Process may best be described by means of the flow diagram, Figure 1.

The refinery-still gas, preferably under high pressure, enters the bottom of the absorber, which is simply a tower provided with the usual trays and bubble-caps. After gas has passed through all of the trays in the absorber, it leaves the tower at the top as purified gas.

The actified phenolate solution enters the absorber on the third or fourth tray from the top, and passes down through the tower from tray to tray and counter-current to the flow of the gas. The foul solution leaving the lower tray of the absorber collects in a sump in the bottom of the tower, and from here is allowed to flow out by means of a level controller, which holds the level of the foul solution in the sump substantially constant. Usually no pump is required in the solution line from the absorber to the actifier, since the gas pressure is sufficient to cause solution flow to the top of the actifier.

It will be noted that a few trays are provided at the top of the absorber, through which no phenolate solution flows. A small quantity of water is introduced on the top tray, and these water trays at the top serve to absorb most of the phenol vapor carried by the gas, and thereby prevent any substantial loss of this reagent.

The foul solution leaving the absorber flows through a heat exchanger where it is preheated by the hot actified solution returning from the actifier. From the heat exchanger, the foul solution flows to a vent tank above the actifier and from here it flows by gravity onto the top tray of the actifier.

The actifier is built up of bubble-cap trays contained in a tower. The foul solution flows down these trays and finally passes into a reboiler shown in the flow diagram as the bottom portion of the actifier tower. In this reboiler the solution is kept boiling by means of a tube assembly supplied with steam inside of the tubes, the condensed steam being discharged outside of the actifier tower. The mixture of steam and phenol vapor resulting from the boiling of the solution passes up through the various trays of the actifier, thereby efficiently contacting the down-flowing foul solution in a counter-current manner. This results in the expulsion of the majority of the H_2S that is chemically combined in the foul solution, so that the solution leaving the reboiler is actified and ready for further use in the absorber.

The boiling-hot actified solution, after leaving the boiler, flows through the heat exchanger mentioned previously, and therein gives up a portion of its heat to the foul solution coming from the absorber. It is then pumped through a tubular solution cooler, where it is cooled to ordinary temperature by means of water. From the solution cooler, the cool actified solution flows into the absorber to begin another cycle of absorption and actification, such as has just been described.

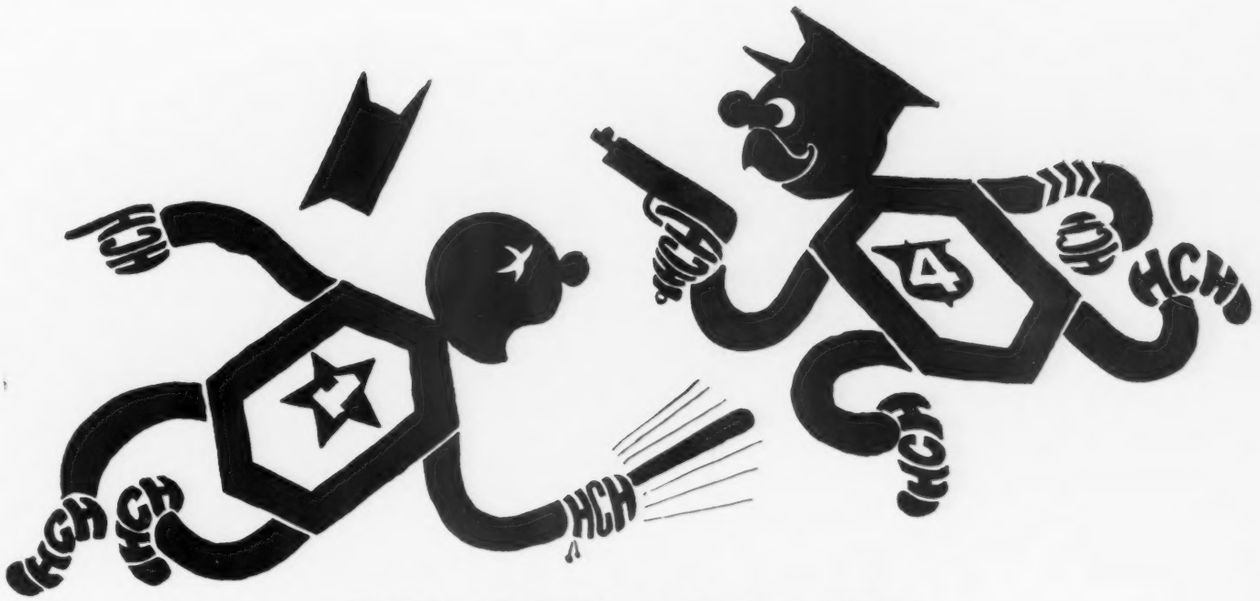
The hot vapors leaving the top of the actifier consist almost entirely of water vapor, phenol vapor, and H_2S gas. These vapors are cooled in a dephlegmator or, as shown in the flow diagram, by two dephlegmators in series, placed above the actifier tower. The dephlegmator consists simply of a tubular condenser with cooling water flowing through the tubes. The condensate, consisting of a mixture of water and phenol, flows back into the actifier, while the cool H_2S gas leaves the system as a by-product which can be utilized for various purposes, as will be described later.

Since periodically small additions of the reagents, soda and phenol must be made to counterbalance slight mechanical end vaporization losses from the solution, a small mixing tank is provided for this purpose. This is shown at the lower left-hand corner of the flow diagram in Fig. 1.

It will be noted from the flow diagram that thermometers, pressure gauges, and flowmeters are installed in order that the process may be easily and efficiently controlled at all times. The use of temperature controllers to regulate steam flow to the reboiler tubes and water flow to the dephlegmator tubes makes the operation of the plant almost entirely automatic. It is preferable to have the temperature of the gas and the solution in the absorber as near to ordinary temperature as possible, although if necessary the process will function successfully at somewhat elevated temperatures. The temperature of the solution and vapor in the actifier is, of course, substantially the boiling point of the solution. When the actifier is operated at atmospheric pressure, this temperature is about 230° F., or about 250° F., in case the actifier is kept under 10 lbs. per square inch gauge pressure.

The pressure in the absorber is, of course, that of the gas being purified. The higher this pressure is, the more efficient and economical will the process operation be, other conditions being equal. The pressure that will be maintained in the actifier is determined by what pressure it is desired to have the H_2S gas leave the system. Ordinarily, the actifier pressure is atmospheric, so that the H_2S gas leaves the plant with no gauge pressure. As will be described later, the actifier may be designed for operation at pressures as high as 10 lbs. gauge, or even higher, thereby delivering the H_2S under this pressure.

The composition of the solution used in the Phenolate Process may vary within fairly wide limits without appreci-



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ably affecting the efficiency. The following represents the approximate composition of a solution carrying a ratio of 1.25 moles of phenol per mole of NaOH:

	Actified Solution	Foul Solution
NaOH, % by weight	12	12
C_6H_5OH, % by weight	35	35
H_2S, % by weight	3	8

Usually the foul solution contains two layers, one layer or phase being considerably higher in phenol than the other. This is due to the "springing" action of the H_2S, which forces some of the phenol out of the solution. When the majority of the H_2S is expelled in the actifier, the solution again becomes a single liquid phase.

The relations between partial pressures of H_2S from such a solution and the H_2S content of the solution at both ordinary temperature (absorption at 25° C.) and boiling temperature (actification condition) are shown by the curves in Figure 2. For convenience the "vapor pressure" or partial pressure of H_2S is expressed as grains of H_2S per 100 cubic feet of gas or vapor and the H_2S content of the solution as grains of H_2S per gallon.

One very interesting characteristic of the phenolate solution as shown by the 25° C. curve is the relatively large amount of H_2S in the solution at a point where the H_2S partial pressure becomes very low. For this reason the solution carries a permanent content of NaHS corresponding to about 2000 grains of H_2S per gallon. The usual "working range" of H_2S concentration is between 2000 grains in the actified solution and 4000 grains per gallonage in the foul solution, but will vary to some extent, depending on the H_2S content and pressure of the gas being purified.

These two curves illustrate the marked difference in H_2S partial pressure between a solution at 25° C. and the same solution at boiling temperature and this difference is, of course, one of the most essential factors determining the efficiency of a cyclic process of this type. Tests that have been made with many other auxiliary acidic constituents than phenol give differences in partial pressures between the two curves that are only small fractions of those shown for phenol in Fig. 2.

Another characteristic of the operating phenolate solution that should be emphasized is its high carrying capacity for H_2S. Despite the permanent H_2S content of about 2000 grains per gallon, the solution will carry from the absorber to the actifier about 2000 grains or more per gallon of removable H_2S when high-sulfur gas is purified and will carry about 1000 grains or more per gallon of removable H_2S when low-sulfur gas at atmospheric pressure is purified. This high carrying capacity is largely due to the concentrated nature of the solution, and is a distinct advantage to the process, since it makes for a low solution-circulation rate, and resultant low power and steam requirements.

Phenolate process plant of Standard Oil Co. of California at El Segundo

Late in the summer of 1936, the first large commercial installation of the Phenolate Process went into operation at the El Segundo refinery of the Standard Oil Co. of California (1937)[22]. Since that time the plant has been in continuous operation, except for two or three brief shut-downs occasioned by conditions outside of the gas purification plant itself, such as the usual refinery inspection shut-downs, etc.

The primary objective desired in the installation of this plant was the recovery of the hydrogen sulfide from the refinery gas as a useful and marketable product. Prior to the licensing of the process and letting the construction contract to the Koppers Co., the Standard Oil Co. made arrangements to pipe the hydrogen sulfide gas to an acid plant about a mile away, where the H_2S was to be converted into sulfuric acid.

The gas to be purified comes from cracking stills in the refinery and, after purification and removal of the H_2S, is piped to the stills for heating purposes. An incidental result of this purification, aside from the recovery of H_2S, is that the flue gas from the stills is now very low in sulfur dioxide, resulting in an improvement in the atmosphere in the neighborhood of the refinery, an advantage discussed in detail earlier in this paper.

Two separate streams of refinery-still gas are purified in the Phenolate Process plant, and it was therefore necessary to install two separate absorbers, although both of these absorbers are served by one common actifier. Basing the gas volume on measurement at 60° F. and 30 inches mercury absolute pressure (standard conditions), one absorber was designed to purify 13,000,000 cubic feet of gas per day at 100 to 150 lb. per square inch gauge pressure, and the other absorber was designed to purify 3,600,000 cubic feet per day at 2 to 10 lb. gauge pressure. The H_2S content of the high-pressure gas ranges between 4.6 and 7.5 per cent by volume, while that of the low-pressure gas lies between 4.4 and 6.5 per cent. The efficiency guarantee called for removal and recovery of at least 95 per cent of the H_2S in the gas.

The high-pressure absorber consists of a steel tower about 4 feet in diameter by 34 feet high, and contains 12 trays, each tray being provided with 24 cast-iron bubble caps. The low-pressure absorber is a steel tower 5½ feet in diameter and 34 feet high, also containing 12 trays. There are 48 cast-iron bubble caps per tray in this absorber.

In each absorber, the actified phenolate solution enters on the fourth tray from the top, so that only nine of the twelve trays serve for H_2S absorption. The upper three trays act as absorbers for phenol vapor picked up by the gas in the lower part of the tower. A small volume of water is admitted to the top tray of each absorber for this purpose.

At the El Segundo plant, a special form of degasser was installed instead of the vent tank shown previously in the flow diagram (Fig. 1). The foul solution leaves the reservoirs in the bottom of the absorbers, the levels of which are controlled by Mason-Neilan regulators, passes through the heat exchanger and thence flows to the degasser. This degasser is a tower 5½ feet in diameter and 20 feet high located in the base of the low-pressure absorber. The foul solution enters the degasser through an eductor pipe, strikes a convex plate and flows through a packing of carbon Raschig rings to the bottom of the tower. The effect of suddenly releasing the pressure on the foul solution and then allowing it to flow over the large surface of the tower packing is to release dissolved hydrocarbon gases which are vented from the degasser back into the low-pressure gas.

The actifier, which regenerates the solution for both of the absorbers, is a steel tower 9½ feet in diameter by approximately 43 feet high. The tower contains 12 trays, and there are 168 cast-iron bubble caps per tray.

Although the phenolate solution as such is non-corrosive and can be used in contact with ordinary steel, the H_2S gas evolved with the vapor from the solution is somewhat corrosive and where this vapor is present, chrome-nickel steel (18-8) is preferably used. For this reason, the entire top portion of the actifier, including the top tray, all piping for handling H_2S vapor, and the dephlegmators were all constructed of chrome-nickel steel at the El Segundo plant.

In the base of the actifier is a nest of steel tubes for the purpose of boiling the solution. This nest of tubes is supplied with steam at about 135 lbs. gauge pressure.

At El Segundo two dephlegmators in series are provided to condense the vapor coming from the top of the actifier. The bulk of the vapor condenses in the first dephlegmator, while the second dephlegmator completes the condensation and cools the H_2S gas ready for delivery to the pipe line. The condensates are returned to the actifier tower.

In order to furnish the necessary pressure to conduct the H_2S gas through the pipe line to the acid plant, without having to provide a gas booster, the actifier at El Segundo was designed to operate at about 10 lbs. per square inch gauge pressure. The H_2S gas therefore leaves the second dephlegmator at approximately 10 lb. pressure.

The usual pumps, indicating and recording instruments, etc. have been installed but detailed description of these would require too much space. The heat exchanger and solution cooler are both of the usual tubular construction and re-

quire no detailed description. A control building has been provided to house the control board and motor starters.

One of the most interesting and novel features of the El Segundo purification plant is the steel enclosure which entirely surrounds all of the purifying equipment. This was installed at the recommendation of the Standard Oil Co. engineers and is intended to give absolute protection to the plant operators against any adventitious leakage of H_2S gas from the equipment. Except when the plant is shut down there is no entrance to this steel enclosure, and all of the plant operation is carried on from outside. The operating valves are contained in a separate sealed chamber along one side of the enclosure and the valve handles are consolidated at an operating platform outside of the enclosure adjacent to the pump. When the plant is shut down, some of the sides of this enclosure may be removed, in order to facilitate inspection and repairs. At the top of the housing is a short stack provided with a steam aspirator to draw fresh air up through the enclosure.

As stated before, the economy and efficiency of operation of this plant has been most satisfactory since its start in the late summer of 1936. The hydrogen-sulfide removal-efficiency has been above 96 per cent, and no serious operating difficulties have been encountered. All of the hydrogen sulfide produced has been sent through the special pipe line to be converted into sulfuric acid.

Some views of this plant are shown in Fig. 3 and 4. Fig. 3 is a general view of the installation, showing the steel shell which encloses the towers, the various lines entering the shell, the handles of the control valves outside of the shell, the pumps, etc. At the right may be seen the building containing the large instrument panel, on which the various indicating and recording instruments are mounted.

Fig. 4 is a photograph of the towers taken when one complete side of the steel shell had been removed. The tower at the right is composed of two sections, the upper half being the low-pressure absorber and the lower half the degasser. The smaller middle tower is the high-pressure absorber. The large insulated tower at the left is the actifier, which regenerates the solution for both of the absorbers. One of the horizontal dephlegmators may be seen above the actifier. In the lower part of the shell and back of the towers are the heat exchanger and solution cooler, with the valve chamber, partitioned off from the main enclosure, along the rear wall.

At the present time, two other phenolate process plants for purification of gas are either in construction or definite plans have been made for construction.

The largest of these is a plant for the Atlantic Refining Co. at Philadelphia (1937)[22]. This plant is designed to purify 22,000,000 cu. ft. per day of refinery-still gas at a pressure of approximately 225 lb. gauge. The purified still gas will be treated by the polymerization process for production of gasoline, and the by-product H_2S will be piped to a sulfuric-acid plant.

A smaller plant is to be built for the Chartiers Oil Co., in Wayne County, W. Va. Natural gas under 325 lb. per sq. in. gauge pressure and containing 125 grains of H_2S per 100 cu. ft. (standard conditions) will be purified. The designed capacity is 5,000,000 cu. ft. per day of natural gas. The recovered H_2S will be burned under a boiler to generate steam for the actifier.

Operating Results and Costs

It is obvious that the operating results to be obtained from the Phenolate Process will vary considerably from plant to plant, depending on the volume of refinery gas purified, the pressure and temperature of the gas, and the content of hydrogen sulfide. All of these factors will also affect the cost of operation and, in addition, the unit costs at a particular refinery for labor, steam, chemicals, power, and water will also enter into the determination of total operating cost.

The following general data give a fairly typical picture of the operating figures for the Phenolate Process, as applied to refinery gas. The practical reliability of these figures have been well proven by many tests made on a very large scale pilot plant, as well as by the operating results of the Standard Oil Co. plant at El Segundo.

TABLE 1

General Operating Data—Phenolate Process on Refinery Gas

Gas:	
Volume purified, cu. ft./day (standard conditions)	10,000,000
Pressure, lb./sq. in., gauge	200
Temperature, °F.	100
Inlet H_2S, grains/100 cu. ft. (standard conditions)	2,000
per cent by volume	3.15
Outlet H_2S, grains/100 cu. ft. (standard conditions)	100
per cent by volume	0.16
Removal of H_2S, per cent	95
Solution:	
Circulation rate, gals./hr.	4,000
gals./M cu. ft.	9.5
Hydrogen Sulfide Gas:	
Volume produced, cu. ft./day (standard conditions)	300,000
Contents of H_2S, per cent by volume	98
Equivalent sulfur in H_2S, tons/day	12.5
Utilities and Chemical Requirements:	
Steam for actification, M lb./day	152
lb./lb. H_2S	5.6
Power, kw. hr./day	350
Water, M gals./day	800
Phenol makeup, lb./day	28
lb./M cu. ft.	0.0028
Caustic soda makeup, lb./day	4
lb./M cu. ft.	0.0004

Based on these typical operating figures, the operating costs for this plant are as follows:

TABLE 2

Estimated Operating Cost—Phenolate Process on Refinery Gas

	Per 24 Hours
Labor: 24 man hours at 75c	$18.00
Steam: 152 M lbs. at 30c	45.60
Power: 350 kw. hr. at 1c	3.50
Water: 800 M gals. at 1½c	12.00
Phenol: 28 lbs. at 7c	1.96
Caustic Soda: 4 lbs. at 3c	0.12
Maintenance:	5.00
Total operating cost per day	$86.18
Cost per M cu. ft. gas (no sulfur credit)	0.86 cent
Cost per ton sulfur equivalent recovered	$6.90

The outstanding economy of the phenolate process and the profit that may be made from the utilization of the by-product hydrogen sulfide is shown by the figure of $6.90 per ton of recovered sulfur. This means that, if the purification of the gas be considered as being accomplished free of any cost whatsoever, then the recovered sulfur (as hydrogen sulfide) costs only $6.90 per ton, when all of the operating costs are allocated to this product. Even when the fixed charges are added to this, the cost of the sulfur will be far under the cost of natural brimstone sulfur, and, in addition, the purification of the gas will have been accomplished free of cost.

In addition to the extremely low cost of this process, whether considered from the standpoint of gas purification or from the standpoint of by-product sulfur production, there is a further outstanding advantage in the ease of operation. In the entire plant only liquids and gases flow in closed systems and there are no solids to be handled. After once starting, the operation of the plant is almost wholly automatic and only the minimum of attention is required.

As mentioned earlier, certain parts of the plant are constructed of chrome-nickel steel to prevent corrosion at these locations. With this precaution taken for these relatively few parts of the plant, no corrosion whatsoever has been found over long periods of time, as shown by thorough inspection of the metal on the inside of the towers, pipes, etc.

It was mentioned earlier that definite plans have now been made for the installation of a Phenolate Process plant to purify natural gas. The application of the process to natural gas is exactly the same as to refinery-still gas, irrespec-

tive of whether the primary purpose is purification of the gas or whether the recovery of by-product sulfur is the chief object sought.

The Phenolate Process may also be used for purification of coke-oven gas, but certain modifications are necessary when this kind of gas is to be treated. Coke-oven gas is relatively low in H_2S content as compared to the majority of refinery-still gas and must usually be purified at pressures very little above atmospheric. In addition, coke-oven gas contains an appreciable percentage of carbon dioxide, and some of this is removed along with the H_2S. For these reasons, somewhat different design features must be incorporated in the plant and the recovered by-product gas contains only about 75 per cent H_2S (the remainder being chiefly CO_2), whereas the by-product gas from refinery-gas purification contains approximately 98 per cent of H_2S, as pointed out in the table of operating data. Tentative plans are now being made for a Phenolate Process plant to purify coke-oven gas, and it is hoped that a description will be available in the near future.

Utilization of Recovered Sulfur

At the present time the most desirable use for the by-product hydrogen-sulfide gas is the manufacture of sulfuric acid. All of the H_2S being produced at the Standard Oil Co. refinery at El Segundo is transported through a pipe line and delivered at an acid plant for this purpose, as mentioned before. In some respects H_2S is more convenient to use than sulfur from other sources, and is obviously quite free of objectionable impurities.

In locations lacking an existent acid plant, it is quite feasible to erect a small plant to convert the H_2S into sulfuric acid. The Koppers Co. has investigated this situation very thoroughly and feels sure that these small acid plants are relatively inexpensive to build and operate, that the operation can be carried on almost automatically, usually under the guidance of the same man operating the gas purification plant, and that the sulfuric acid so produced provides a very cheap source of the acid used in the refinery or a profitable product for sale to others.

Other uses for the by-product H_2S are being actively investigated and it is believed that several alternative means for profitable use will result.

Summary

1. The Phenolate Process has been developed for the removal of hydrogen sulfide from refinery-still gas and other gases. The hydrogen sulfide so removed is recovered as a valuable by-product of about 98 per cent purity in the case of refinery gas.

2. This new process has been installed at the El Segundo refinery of the Standard Oil Co. of California and has been in efficient and economical operation for several months. Several other plants will go into operation in the near future.

3. Theoretical considerations have indicated the advantages of a solution containing phenol and an alkali, such as caustic soda, for the purpose of alternately absorbing H_2S from the gas and then being regenerated for further use by contact with the hot vapor from the solution at the boiling point. The indicated advantages have been confirmed by the large scale commercial operation of the process.

4. The Phenolate Process is carried on by the continuous cyclic flow of a strong sodium phenolate solution between two stages. In the first stage (absorption) the solution absorbs H_2S from the gas, and in the second stage (actification) the absorbed H_2S is driven out of the solution by contact with hot vapors from the boiling solution, thereby regenerating the solution for further use and producing by-product hydrogen-sulfide gas of a high degree of purity.

5. The Phenolate Process plant of the Standard Oil Co. of California at El Segundo has been described. The plant is designed to purify a total of 16,600,000 cubic feet of refinery gas per day. The hydrogen-sulfide removal-efficiency of this plant has been above 96 per cent. At capacity, the plant produces 40 tons of hydrogen sulfide gas per day. The H_2S gas (98% H_2S) is sent through a pipe line to an acid plant, where it is converted into sulfuric acid.

6. Detailed operating and operating cost figures have been given for a typical plant purifying refinery-still gas. In this typical example, the total operating cost is only $6.90 per ton of sulfur recovered in the form of H_2S gas. This figure assumes purification of the gas as free of cost and allocates all of the operating cost to the production cost of the sulfur as a product. Even when fixed charges are included, the cost of this by-product sulfur is considerably below that of natural brimstone sulfur, again assuming that the purification of the gas is obtained free of cost, and that none of the costs be allocated to the attainment of this desirable result.

References

1. Jacobson, D. L., Oil and Gas J., 27, No. 46, 116, 119, 122 (1929)
2. Sperr, F. W., Jr., Amer. Gas Assoc. Proc., 1921, Technical Section, 282-385 (1921)
3. Sperr, F. W., Jr., Amer. Gas Assoc. Proc., 1923, 1200-32 (1923)
4. Jacobson, D. L., Oil and Gas J., 27, No. 36, 151, 169-70, 172 (1929)
5. Sperr, F. W., Jr., Gas Age-Record, 58, 73-6, 80 (1926)
6. Cundall, K. N., Proc. Pacific Coast Gas Assoc., 17, 408-39 (1926); Chem. Met. Eng., 34, 143-7 (1927)
7. Gollmar, H. A., U. S. Patent 1,719,762 (July 2, 1929) and others
8. Jacobson, D. L., Gas Age-Record, 63, 597-600 (1929)
9. Colbert, F. B., Gas Age-Record, 65, 783 (1930)
10. McBride, R. S., Chem. Met. Eng., 40, 398-401 (1933)
11. Denig, Fred, Amer. Gas Assoc. Proc., 1933, 903-12 (1933)
12. Gollmar, H. A., Ind. Eng. Chem., 26, 130-2 (1934)
13. Powell, A. R., Amer. Gas Assoc. Proc., 1936 (Production and Chemical Conference, 1936); Chem. Met. Eng., 43, 307-9 (1936); Gas J, 215, 277-80 (1936)
14. Espenhahn, E. V., U. S. Patent 1,440,977 (Jan. 2, 1923)
15. Sperr, F. W., Jr., U. S. Patent 1,523,845 (Jan. 20, 1925)
16. Hall, R. E., U. S. Patent 1,523,872 (Jan. 20, 1925)
17. Bottoms, R. R., Ind. Eng. Chem., 23, 501-4 (1931)
18. Bragg, G. A., U. S. Patent 1,920,626 (Aug. 1, 1933)
19. Rosenstein, Ludwig, et al., U. S. Patent 1,945,163 (Jan. 30, 1934)
20. Shaw, Joseph A., U. S. Patents 2,028,124-5 (Jan. 14, 1936)
21. Denig, Fred, and Powell, A. R., Amer. Gas Assoc. Proc., 1933, 913-24 (1933)
22. Anon., Oil and Gas J., 35, No. 36, 38 (1937); Refiner, 16, No. 2, 90-1 (1937)

Technology, Like Music Is a Universal Language

(*Continued from page* 49)

planes which rumor says are being built to speed to Europe and Asia in a matter of hours via sub-stratosphere routes, routes never before attempted successfully. In lubricants, the complementary product to motor and aviation fuels, we are just now learning to make those oils which will render a service not obtainable from the conventional type of purely mineral oil, under conditions too severe for the latter to meet. Real development of hydrocarbon-fueled power plants is dependent on accentuation of pressures and of load carried per unit of equipment. Fuels and lubricants which will make these conditions operable in practical equipment are fundamental to any important advancement. The essence of these developments to date should, and apparently is found in the work presented at the Second World Petroleum Congress.

Tool Exhibit Arranged

HOUSTON, June 8.—New equipment developed for oil field and plant use and new equipment patents will be displayed at the Oil-World Exposition, Inc., at Houston, Oct. 11 to 16.

A section has been set aside for the display of actual tools, working models, patterns and drawings. Anyone having a tool or invention relating to the oil industry is invited to exhibit his proposed designs. Space will be furnished without charge if the equipment shown has not been put on the market or manufactured by any manufacturing concern, according to the exposition management.

Lester B. Clark, patent attorney, is chairman of the new patents and inventions committee. E. G. Lenzner is assistant chairman.

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Fullers Earth and Bauxite Type Adsorbents Compared

By OGDEN FITZSIMONS*

Presented before the National Petroleum Assn., Department of Manufacture, at Bradford, Pa., June 3rd.

● Low grade fullers earths and overburning in inefficient burners account for most troubles experienced in filtering. A comparison of costs under suitable conditions brings out the advantages of fullers earth over bauxite type adsorbents. Although bauxite makes some quality improvements they are of rather minor importance the author says.

Comparing filter houses of equal volume capacity; for example, 500 tons capacity of fullers earth and 850 tons of bauxite (since bauxite is 1.7 to 1.9 times heavier), an annual cost of $60,900 is computed for fullers earth as compared with $85,980 for activated bauxite. This is in spite of the fact that an infinite number of burns is assumed for bauxite and only 18 burns for fullers earth. Bauxite has a little higher loss rate but no discard.

Examples of plants using both types are analyzed in charts to show graphically the dividing line between advantageous use of each type of adsorbent.

IN SPEAKING of fullers earth, we have confined our attention to floridin in the generic sense as used in government publications and texts, and not the particular product of the company I represent. It is defined as that particular clay from southern Georgia and northern Florida. This term is used to differentiate it from the original fullers earth of English origin, which is too soft to be used as a granular adsorbent, and from other domestic clays of inferior bleaching capacity.

The bauxite type material being 1.7 to 1.9 times as heavy as fullers earth, depending upon the particular fullers earth to which it is compared, has resulted in errors in its evaluation. It makes little difference whether we talk in weight units or volume units, as long as we are consistent with one system or the other. Using the volume system, we have used the term "equivalent ton" as being that volume occupied by one ton of fullers earth. Thus, the cost of an equivalent ton of the bauxite would be 1.7 times its cost per ton, or about $126. In testing the material, efficiencies can also be calculated in the same manner upon a volume basis or a weight basis. However, in placing it upon a weight basis, many people have fallen into the error of comparing equal weights of the two materials in a laboratory test filter and running the two materials at the same number of drops or cubic centimeters per minute. This, of course, unjustly penalizes the bauxite type material, for we have a column height only about 60% that of a floridin column, which decreases our time of contact, as well as markedly changes the adsorption characteristics of the column.

A column of adsorbent material can be considered as analogous to a distillation column where the degree of fractionation is a function of the height of the column, or the number of plates contained in the column. Thus, we should always use equal volumes in testing any two adsorbent materials, but it is immaterial whether the results are calculated upon a volume basis or a weight basis. Also, in the laboratory it has been a customary practice to run the filters at running rates in gallons per hour per ton as high as 10 times that actually found feasible in the plant.

In Fig. 1 this procedure is justified, as in the laboratory test filter the efficiency is independent of running rates, except at very high values compared to plant practice. However, mass velocity values between laboratory and plant are in good agreement. In the case of the bauxite adsorbents, we have a much more dense material and we get a steep curve as we vary the running rates, with the result that comparing two adsorbents side by side, using equal volumes in identical filters and running at the same rate, the bauxite type material will be unjustly penalized, if we run at the normally high rates used in laboratory testing. Further, this result is even more accentuated if we are running on a viscous undiluted stock. The results shown here are on clays of

*The Floridin Co.

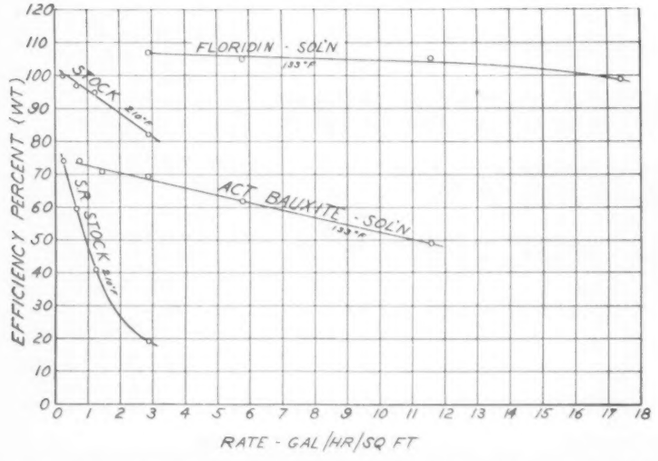

Fig. 1. Justification for the customary practice of running laboratory filters at rates as high as ten times that feasible in the plant

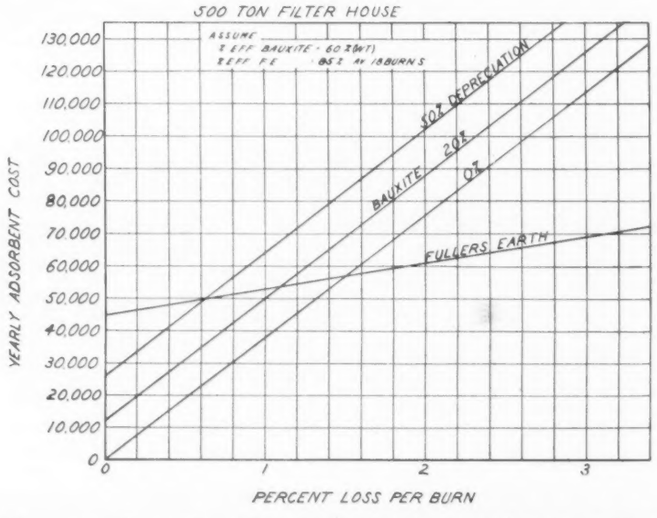

Fig. 2. At a loss per burn of 1.1 per cent it is immaterial from a cost standpoint which bleaching medium is used. A greater sensitivity to loss of bauxite is evident

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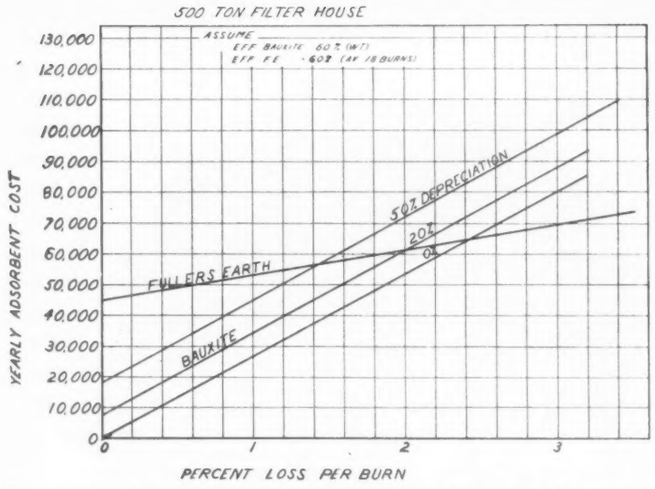


Fig. 3. Assuming a low efficiency for fullers earth the dividing line between fullers earth and bauxite is up to 2 per cent allowable

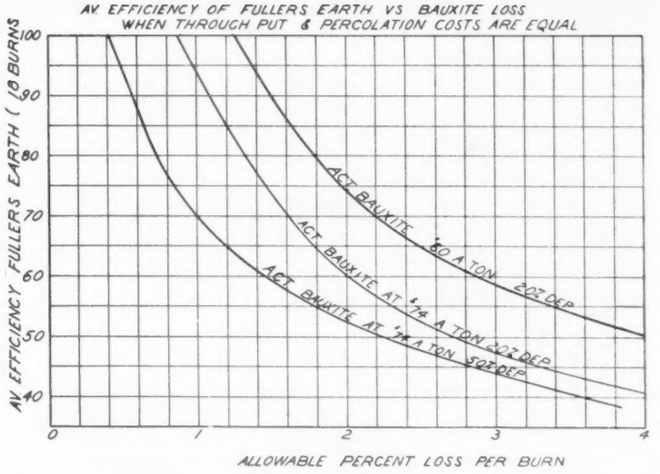


Fig. 4. Allowable loss is plotted as a function of the fullers earth overall efficiency for 18 burns. A plant operating at low efficiencies could change over to bauxite advantageously and still have a higher loss compared to another plant that is getting the most out of floridin

exactly the same mesh; namely, a true 30/60. If we go to coarser meshes, such as a 20/60, the steepness of our curves is increased. While the percolation of oils through bauxites gives a higher A.P.I. gravity, lower viscosity, lower carbon residue, and higher viscosity index, than percolation through floridin to equivalent colors, the degree of improvement is small, except on very light colors. Thus, I am inclined to pass over the quality improvements of bauxite type material as being of rather minor importance. The whole question of the relative merits of floridin and bauxite hinges entirely around the cost.

The final question that should decide a given plant in favor of one system or another is whether it will reduce cost. To avoid controversy in my cost figures, we have used values previously presented before this group in the Warren meeting last month as far as possible, and I have tabulated these results under one set of conditions:

	Fullers Earth	Activated Bauxite
Capacity, Tons	500	850
Average Efficiency by Weight	85	60
Tons Used	500	708
Cost Per Ton, Activated	$22.40	$74.00
Number of Burns	18	.....
Turnovers per Year	72	72
Loss per Burn	2%	2%
Loss, Tons per Year	720	1,020
Tons Discarded per Year	2,720	1,020
Investment	.....	$52,400
Depreciation at 20%	.....	$10,480
Expenditure, New Clay per Year	$60,900	$75,500
Total	$60,900	$85,980

For a filter house of 500 tons of fullers earth capacity, this same filter house on activated bauxite would have a capacity of 1.7 times that of floridin, or 850 tons of bauxite. For this particular set of figures, I have used an average efficiency for 18 burns of 85% for fullers earth, a figure which I will justify later, and a figure of 60% for activated bauxite. In order to obtain the equivalent capacity on bauxite, as obtained on floridin, it is not necessary that we fill all the filters, but would need only 708 tons, or about 83% capacity.

We have calculated the cost per ton of floridin on an activated basis as $22.40 which is the $20.20 delivered price into this district, plus a correction of about 5% for free moisture and 5% for combined moisture. Assume 18 burns as the life of floridin and a turnover of six times a month, or 72 times a year, and at a loss of 2% per burn, this would be 720 tons a month of floridin, and 1020 tons of bauxite. Four times a year we would discard 500 tons, or something like 2000 tons of floridin a year, making a total tonnage discarded of 2720 tons, whereas in the case of bauxite, the only discard is the 1020 tons lost out the stack of our burner, and in other handling operations.

We believe it is necessary to consider our initial investment in the case of the bauxite. In this particular plant under consideration, it cost about $52,400 to fill the system with activated bauxite, which must be taken care of in some way in the cost figures. The bauxites, like other bleaching agents, can be ruined. The material is particularly rugged against overburning, but in rare cases we have had boiler house compounds going through the steam lines, throwing caustic on to the fullers earth, and any such rare accident as that, of course, would also ruin bauxites. Then again, some new development might render the material obsolete.

We have taken a write off period of five years for the initial investment, which is a longer period than most managements would consider for refinery equipment, due to the rapid rate of obsolescence in the petroleum industry. Thus, our total expenditures for floridin are $60,900, and in the case of bauxite $75,700 plus the depreciation charge of $10,280, giving a total of $85,980. These results we have plotted in Fig. 2 where we have varied the per cent loss per burn, which indicates that at a loss per burn of 1.1%, it is immaterial which bleaching medium we use from a cost standpoint, and if our loss can be held below this value, we save money by using the bauxite, and if it exceeds 1.1%, the use of floridin is indicated.

You will note the extreme sensitivity of a plant operating on bauxites to loss of material, whereas the fullers earth curve shows the overall cost increases only slowly, as the loss per burn increases. This, at once, brings up the point of a new test being needed to evaluate high cost adsorbents, such as bauxites, which will evaluate their resistance to attrition. Our chief loss is due to material being ground up in handling operations, and during burning to meshes finer than 100, which are carried out the stack. Recovery of this material, of course, is possible, but would have no value, as to return it to our system would ultimately clog up the filter. In other words, our burner is acting as a convenient air separator to remove undesirable material. We can afford to pay a higher price for more resistant bauxite, or conversely accept lower efficiency in our material, if breakdown can be decreased. Some excellent bauxite materials are available as bleaching agents, but their use is impossible due to their extreme softness and lack of resistance to attrition.

In Fig. 3 we have exactly the same type of curve, except that the average efficiency of fullers earth has been assumed to be only 60%. The red line is from data which was previously presented at the Warren meeting, where no account was taken of the initial cost of our bleaching medium. As you will note, when we write this out over a 5-year period, it is not a very large item and does not change our results

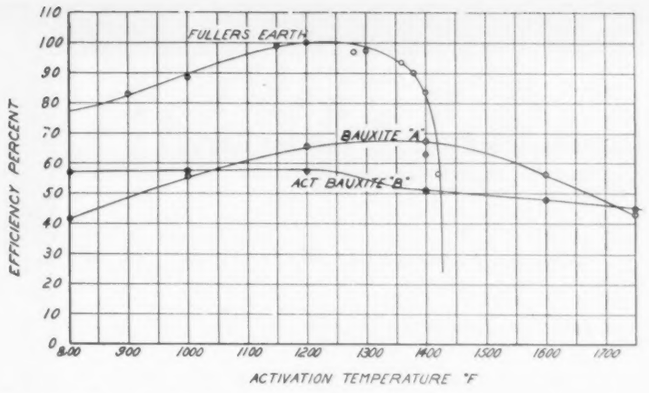


Fig. 5. The fact that bauxites maintain their efficiencies on reburning re-affirms the contention that the only reason fullers earth loses efficiency is due to overburning

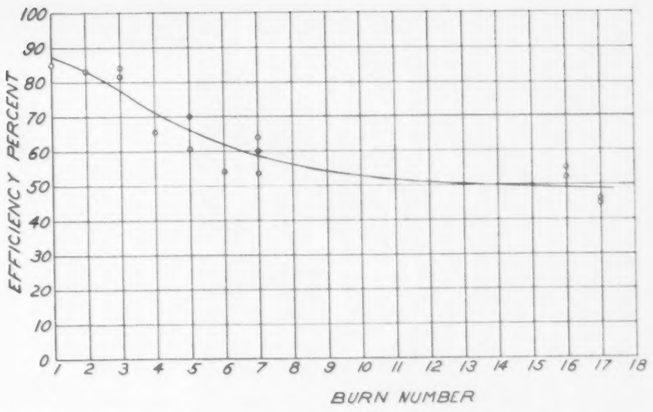


Fig. 6. Here is the reason one plant changed from fullers earth to bauxite: an average efficiency of only 59 per cent for floridin with an allowable loss of 2 per cent

materially, while accepting a 2-year pay off time results in a considerable item of expense. In this assumed lower efficiency of the fullers earth, you will notice that the allowable loss is 2%. Comparison of this curve with the previous one shows up the sensitivity of the allowable loss to the overall efficiency of the fullers earth to 18 burns.

In Fig. 4, the intersection of these lines, called the allowable loss, is plotted as a function of the fullers earth overall efficiency for 18 burns, and you will note that a plant operating at low efficiencies could change over to a bauxite advantageously and still have a higher loss compared to another plant that is getting the most out of their floridin. The top line is of no practical significance except to indicate that any decrease in the price of bauxite (20% cut is assumed here) naturally makes the picture in favor of bauxites become more favorable and decreases the sensitivity of the cost figures to losses as dust.

In Fig. 5 we plotted the efficiency of fullers earth and two bauxites as a function of the activation temperature. The fact that bauxites maintain their efficiencies on reburning re-affirms the contention of our laboratory that the only reason fullers earth loses efficiency is due to overburning. Recently we have carried out a considerable amount of work in various plants using a new type of radiation pyrometer recently brought out by Leeds and Northup. By means of this instrument, we have been able to take the surface temperatures of clay in multiple hearth burners and have found that it is often 200°F. hotter than the recorded gas temperature or that of the clay bed one inch below the surface. This is easily understandable as the fuel containing clay is in contact with excess hot air and is actually undergoing slow combustion at a high temperature.

As shown in the curve, even momentary exposure of fullers earth to temperatures in excess of 1300°F. cause a rapid loss in efficiency. In many cases we have found surface temperatures as high as 1400° and 1450°F., so that the small amount of clay on the surface of the hottest hearth is ruined and has no more bleaching capacity than that of common clay. Thus, each time 3 to 7 per cent of fullers earth may be overburned, causing rapid loss in efficiency. As indicated in the case of the bauxites, temperatures as high as 1500° and 1600°F. cause only slight loss in efficiency. We have some results from a series of burns from several plants where samples have been taken and subsequently tested in the laboratory.

The first is from a Paris burner; the clay was discarded at the end of seven burns and, of course, rather large savings would result in going over to bauxite type materials. The other extreme is that of a Herreshoff operating on the new pressure activated fullers earth. Efficiency dropped only to 90% at the eleventh burn. We regret that we haven't the results beyond 11 burns, but this plant ordinarily gives the best operation of any in the Pennsylvania field with which we are familiar, and its average operation is about 80% that of new clay. In this case, using the high test pressure activated clay, an average overall efficiency of 90 to 95 per cent for 18 burns is obtained, compared with new regular floridin. Such a plant would have to maintain a loss below 1% in order to make bauxite type adsorbents show a profit over present operation.

In Fig. 6 are results on a plant operating on fullers earth a short while before the whole plant was changed over

(*Continued on page* 67)

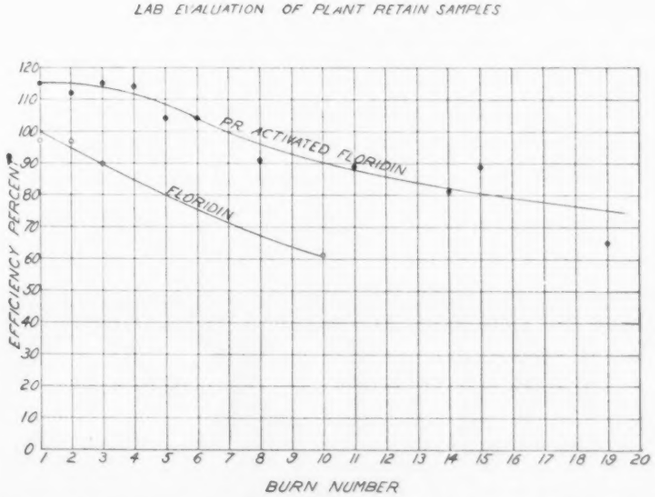


Fig. 7. A laboratory evaluation of floridin indicates an average efficiency over 17 burns of about 70 per cent and on pressure activated clay 95 per cent

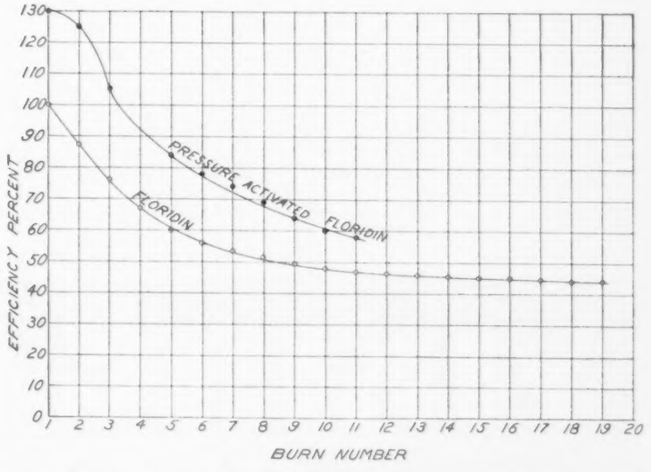


Fig. 8. Composite samples collected automatically are interesting because points lie on a smooth curve. Efficiency was 53 per cent for 18 burns and 73 per cent on pressure treated floridin

Thank you Mr. Kilgore

PANHANDLE REFINING COMPANY

PRODUCERS, REFINERS AND MARKETERS OF
PETROLEUM AND PETROLEUM PRODUCTS

PANHANDLE BUILDING
P. O. BOX NO. 1107

WICHITA FALLS, TEXAS

April 5, 1937.

Viking Pump Co.,
Cedar Falls, Iowa.

Gentlemen:

We have just noted your ad. on page 72 of the March 31st issue of N.P.N., regarding "Simplex Tank Gauges".

There is no illustration carried in the ad. covering this gauge and we respectfully ask that you favor us with descriptive literature of same.

I might add at this time, that we have some 35 or 40 of your electric pumping units in our wholesale set-ups throughout Texas, Oklahoma and New Mexico, and not a single one of them has disappointed us yet.

Thanking you, we are,

Very respectfully,

J. G. Kilgore

JGK-4

For the Company.

Mr. Kilgore's letter is a good example of how the "industry" feels about Viking Pumps.

For your Bulk Stations, Refineries, and Blending Plants, Viking can supply YOU with dependable rotary pumps for every need and capacity. Write today for bulletins and prices on Viking's complete stock of pumping units.

No price increase in VIKING bulk station pumps.

VIKING PUMP CO.

CEDAR FALLS, IOWA

Markets

At A Glance . . .

Mid-Continent: Gasoline uncertain; natural is strong.

Mid-Western: Gasoline hesitant after retail cut.

Eastern Seaboard: Tank car gasoline advanced in N. Y.

Pennsylvania: Markets generally firmer.

Gulf Coast: Bunker oils higher

California: Third grade market soft.

Wax: Firm in coastal markets.

Coastal

Bunker Oil Higher

N. P. N. News Bureau
NEW YORK, June 14

● Cargo prices for bunker oil were higher at the Gulf in week ended June 12. Several cargoes of Grade C were reported moved recently at $0.95 a barrel, f.o.b. the Gulf. Traders generally said no cargoes now were available at under $0.95 and that few companies were offering oil in the open market.

The tightness in the charter market for both clean and dirty boats continued to act as a deterring influence on open market trading of most products, traders reported. Several said that some grades of Gulf Coastal crudes were beginning to pile up at the Gulf, due to reluctance of domestic buyers to pay present prices in addition to the high boat rates.

Export demand for gas oil was steady. Several cargoes have been moved recently and stocks of suppliers generally were in good shape.

Occasional domestic inquiries for cargoes of gasoline were reported during the week, but no open market sales were closed. Quotations generally were at 6.5 cents a gallon, f.o.b. Gulf, for high octane grades, although some sellers quoted 0.25 cent higher. No export gasoline inquiries were reported.

Eastern

Gasoline Prices Up

N. P. N. News Bureau
NEW YORK, June 14

● Tank car gasoline prices were advanced 0.25 cent by terminal suppliers at New York harbor and Philadelphia last week. Markets elsewhere along the eastern seaboard were generally unchanged.

The advances in tank car prices at New York harbor were made by several suppliers who had been quoting 65 octane and above gasoline at 7.25 cents for unrestricted spot movement. Other suppliers had raised their prices to 7.5 cents late in the preceding week. Some companies continued to quote 7.25 cents for New Jersey delivery only, where retail gasoline prices remained below so-called normal. Still other companies were asking 8 cents for tank car lots of 65 octane gasoline, f.o.b. New York harbor, but indicated they were doing no open market business.

Some Philadelphia suppliers advanced gasoline prices 0.25 cent a gallon to 7.25 cents tank cars for 60-64 octane and 7.5 cents for 65 octane and above on June 9. Other suppliers met the advance the next day. No changes were reported in Philadelphia service station prices, which ranged generally from 9.5 to 12.5 cents, exclusive of taxes.

Kerosine markets remained quiet.

Mid-Continent

Gasoline Market Uncertain

N. P. N. News Bureau
TULSA, June 14

● Uncertainty predominated the Mid-Continent gasoline market last week, as buyers and sellers marked time—awaiting the market's reaction to Indiana Standard's reduction in dealer and tank wagon gasoline prices.

The announcement came early in the week, but no definite reaction in gasoline prices was noted as the week closed. The price structure in most Mid-Continent districts was sound, although open market trading lagged perceptibly. Inclement weather and the uncertainty were contributing factors.

Traders generally believed gasoline shipments against contract would profit by the reduction, possibly at the expense of open market transactions.

Scarcity of supplies and active demand characterized the Grade 26-70 natural market last week. Supplies were insufficient to care for demand and one active buyer indicated he might bid higher prices for Texas natural. Excessive rains have hampered agricultural activity, resulting in lighter demand and freer offerings in one or two districts. Prices remained steady, although some price shading was reported on kerosine of lower specification.

Export inquiry for Mid-Continent lubricating oil was brisker. Several refiners who had received these inquiries were scouting the market for supplies that could be applied against this export business. Wax was in active demand, with supplies closely held.

N. P. N. Gasoline Index

	Dealer T. W.	Tank Car
	Cents per gallon	
June 14	10.59	6.75
Month ago	10.64	6.73
Year ago	10.36	6.39

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 13 wholesale markets for regular-grade gasoline.

Mid-Western

Gasoline Hesitant

N. P. N. News Bureau
CHICAGO, June 14

● The 0.5-cent cut in retail prices June 9 by S. O. Indiana figuratively exploded in the face of strong tank car gasoline and crude markets. While the trade generally had been expecting higher gasoline prices, and there had been talk of a crude advance, the June 9 reduction has virtually tossed these expectations into the discard. The tank car gasoline market occupied itself primarily with holding prevailing prices following the cut.

Many sellers here feel that open market quotations will be forced to meet the 0.5-cent drop in the contract price. Sellers in the open market face the loss of their market to contract jobbers who will be able to resell in the tank wagon market at less than the same product can be purchased in the open market. This condition had its precedent several years ago.

Although faced with many possibilities, few actual developments of any consequence were apparent in the Mid-Western market following the reduction. The market was highly unsettled and some selling pressure at prevailing lows was noted, but prices generally were at the same levels as prevailed June 8.

Kerosine was listless the second week of June. Reports from buyers and sellers indicated that offerings were freer, although generally held for at least 4.125 cents.

Pennsylvania

Prices Steady

N. P. N. News Bureau
CLEVELAND, June 14

● Prices of all products were firm or higher in the western Pennsylvania refinery market, following a general 15-cent advance in crude prices early last week. Aside from this, the refined oils

market showed little reaction to the boost in crude costs.

Open market trading of most products was comparatively light. Contract shipments of gasoline and lubricating oils were fairly heavy, however.

Gasoline available for the open market continued exceptionally scarce. Many sellers were finding it difficult to meet the requirements of their regular customers and a number reported they were turning down all offers from others than regular accounts. In some instances higher prices were quoted from the lower field for both ordinary U. S. Motor and also 65 octane gasoline with occasional sales being made at the higher prices. The majority of sellers, however, appeared indisposed to ask higher tank car prices in view of the fact that retail prices in Pennsylvania and Ohio had not advanced.

The recent upward trend of wax prices continued last week as buyers, in the scramble for both prompt and deferred shipments, raised their bids 0.05 cent per pound.

Fuel oil remained scarce with prices firm in the upper field. Lower district refiners generally quoted 0.125 cent higher and a fairly large volume of oil was reported sold at 4.25 cents.

Wax

Scale Firm

● NEW YORK, June 14.—Crude scale wax markets were firm last week and several companies were asking up to 3 cents a pound at New York for 124-126 white scale. Demand was reported good, particularly for domestic movement.

Traders generally said that scale wax was closely held and that many suppliers were out of the open market. Others were taking some business but were not pushing sales.

Fully refined waxes were reported hard to obtain in the open market at present prices. Reports were that higher prices were being contemplated in some quarters, but no changes had been made up to the end of the week.

California

Refineries Starting Up

N. P. N. News Bureau

LOS ANGELES, June 11

Southern California third grade gasoline markets were unsteady the past week, with considerable quantities of independent products available at 7.75 cents a gallon, exclusive of all tax. Several plants, operating on Huntington Beach, Signal Hill and Wilmington crude, started up again after a long shut down and were offering gasoline at this price. A San Joaquin Valley refiner was reported seeking to sell eight tank truck and trailer lots—6000 gallons each—in the Los Angeles territory at 11.75 cents delivered to service stations, including tax.

Another development was that the tanker Brandywine, with 55,000 barrels of Texas gasoline, had cleared the Panama Canal June 10, enroute to Portland, Ore. The laid down price at that port was mentioned at 8.25 cents, which is a half to three-quarters of a cent less than the price

(*Continued on page 67*)

Crude Oil Prices, Principal Grades

(Effective 7 a.m. as of dates given. Prices are $ per bbl. of 42 U. S. gals., at the well A.P.I. Gravity)

Pennsylvania Grade in Southwest Pa. Lines (Posted by Seep agency, June 7, '37)	$2.57
Lima, O. (Posted by Ohio Oil, Jan. 28, '37)	1.25
Mid-Continent, 36 *Gravity*: (Posted by Stanolind, Jan. 28, '37)	
Oklahoma-Kansas	1.22
North Texas	1.12
East Texas (Stanolind, May 22, '37)	1.35
Panhandle Texas, 36 *Gravity*: (Posted by Humble, Jan. 28, '37)	
Gray County	1.00
West Texas, 36 *Gravity* (Posted by Humble, Jan. 28, '37)	1.00
North Louisiana-Arkansas, 36 *Gravity*: (Posted by S. O. Louisiana, Jan. 28, '37)	1.14
Gulf Coastal, 36 *Gravity* (Posted by Humble, Jan. 28, '37)	1.33
Rocky Mountain: (Posted by Stanolind, Jan. 28, '37)	
Elk Basin, Grass Creek light	1.30
Big Muddy	1.23
*California, 30 Gravity, unless otherwise noted:	
Los Angeles Basin: (All Effective Mar. 7, '36)	
Long Beach	1.21
Santa Fe Springs	1.08
Huntington Beach	1.22
San Joaquin Valley: (All Effective Feb. 26, '36)	
Kettleman Hills (36 Gravity)	1.31
Midway-Sunset	1.25
Coastal Area: (Effective Feb. 26, '36)	
Ventura Avenue (By Associated Oil)	0.89

*Posted by S. O. California, unless otherwise noted.

Fuel Oil . . .

MARKETS HOLD FIRM

CHICAGO, June 14.—While fuel oils had been receiving scant trade attention in the past several weeks, practically all interest in this commodity ceased as sellers focused attention on gasoline following the June 9 reduction.

No changes were noted in prices last week. A fair movement of No. 1 prime white fuel was reported. Industrial fuel oils were listless, although no appreciable build-up of available supplies has yet found its way into this market, despite strikes which have curtailed consumption of these oils.

* * *

NEW YORK, June 14.—Light fuel oil markets were steady along the eastern seaboard last week. Jobbers were fairly active inquirers for spot tank cars or barges of oil, but suppliers generally reported they were not interested in taking on much business at present.

Heavy fuel oil continued tight. Postings for Bunker C were $1.35 a barrel at New York harbor, but many companies said they were doing business only on contracts. Only one company, Sinclair Refining, bid for 63,000 barrels of U. S. Navy Bunker C business for the third quarter of 1937. Sinclair's bid was $1.55, flat price, f.o.b. New York harbor terminal.

* * *

TULSA, June 14.—The Mid-Continent light fuel oil market was quiet last week. Supply and demand for these products pretty well balanced. Prices remained steady.

Heavy fuels were moving mostly to railroads, since strikes have unsettled the market for industrial oils. Road oils were in active demand and absorbed some of the stocks sold for industrial uses. Oils suitable for cracking stock were difficult to find. Prices were unchanged.

TANK WAGON MARKETS, HEATING OILS

Prices in Effect June 14, 1937

Following are tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

	No. 1	No. 2	No. 3	No. 4
S. O. NEW JERSEY				
Newark, N. J.	*	7.00	7.00	7.00
Atlantic City, N. J.	*	6.75	6.75	6.75
Baltimore, Md.	7.50	7.00	7.00	7.00
Washington, D. C.	7.75	7.25	7.25	7.25
SOCONY-VACUUM OIL CO., INC. (S. O. New York Division)				
New York City	*	7.50	7.50	7.50
Albany, N. Y.	*	7.50	7.50	7.50
Rochester, N. Y.	*	7.50	7.50	7.50
Boston, Mass.	*	7.00	7.00	7.00
Bangor, Me.	*	8.00	8.00	8.00
Manchester, N. H.	*	8.00	8.00	8.00
Burlington, Vt.	*	8.00	8.00	8.00
New Haven, Conn.	*	7.50	7.50	7.50
Providence, R. I.	*	6.75	6.75	6.75

*Prices for No. 1 fuel in S. O. New Jersey and Socony-Vacuum territories same as for kerosine, which see in tank wagon table for various cities; prices change with kerosine.

	No. 1	No. 2	No. 3	No. 4
ATLANTIC REFINING				
Philadelphia, Pa.	7.25	6.50	6.50	6.50
Allentown, Pa.	7.25	6.50	6.50	6.50
Wilmington, Del.	7.75	7.00	7.00	7.00
Springfield, Mass.	9.00	7.50	....	7.50
Worcester, Mass.	9.00	7.50	....	7.50
Hartford, Conn.	9.00	7.50	....	7.50

S. O. OHIO

*Ohio Statewide	8.00	8.00	7.50	6.75

Note: S. O. Ohio prices are for hose dumps, bucket dumps are 0.5c per gallon higher.

*Except Cleveland Division and City of Toledo. In Cleveland Division (Cuyahoga, Lake and Geauga counties), No. 1 price is same as statewide; Nos. 2, 3 and 4 are 0.5c higher; No. 5 is priced 0.25c lower than No. 4. In Toledo No. 2 is 0.5c lower than statewide, others same.

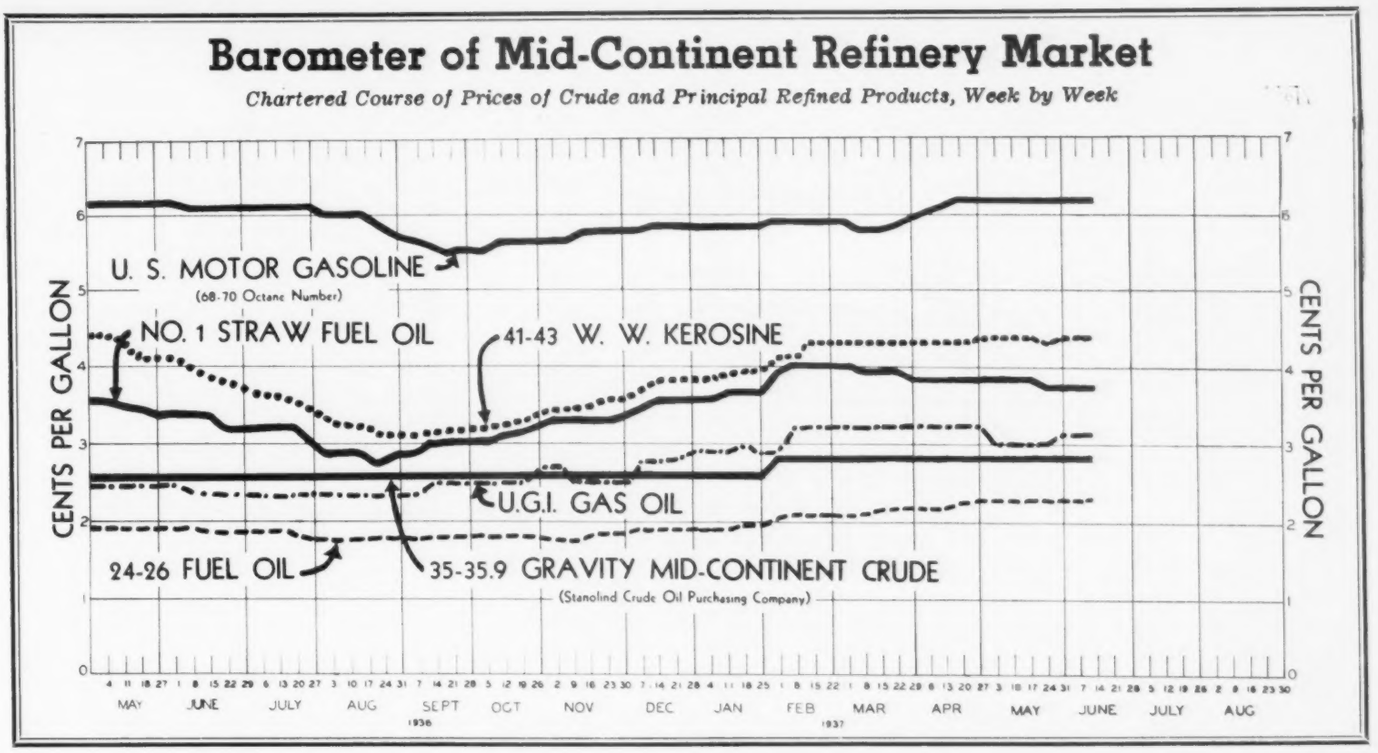
S. O. INDIANA

Stanolex Fuel and Furnace Oils

	No. 1 Fuel	Stanolex Furnace
Chicago	7.00	7.00
Indianapolis	....	*11.7
Detroit	7.1	7.1
Milwaukee	8	7.3
Minneapolis	7.5	7.5
Sioux City	7.1	7.1
St. Louis	7.5	6.8
Kansas City	6.5	6.5

*Includes state tax of 4c.

Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.


Barometer of Mid-Continent Refinery Market
Chartered Course of Prices of Crude and Principal Refined Products, Week by Week
U. S. MOTOR GASOLINE
(68-70 Octane Number)
NO. 1 STRAW FUEL OIL
41-43 W. W. KEROSINE
U.G.I. GAS OIL
24-26 FUEL OIL
35-35.9 GRAVITY MID-CONTINENT CRUDE
(Stanolind Crude Oil Purchasing Company)
CENTS PER GALLON
CENTS PER GALLON
MAY JUNE JULY AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG
1936
1937

California

(*Continued from page* 66)

for a comparable product shipped from the Los Angeles Basin.

Softness in the third-grade market was reported having little effect on service station prices of "Q" products. One major marketing company reported sales of third-grade brand were less than 15 cents of total.

Suppliers interested in bulk offshore business said they were held up by scarcity of boats at any reasonable price. Quotations on cargo lots of gasoline for shipment to Atlantic foreign ports were reported as 5.75 cents for a 65 octane and above. The last clean tanker for this service was reported taking a charter rate of 3.25 cents a gallon. Inquiry for export burning oils was reported active, at prices unchanged from previous quotations.

Fullers Earth and Bauxite Adsorbents

(*Continued from page* 63)

to activated bauxite. It is easy to understand why this particular plant is able to show a profit using the bauxite type of adsorbents, since previous operation on floridin gave an average efficiency of only 59%, which gives them an allowable loss figure of 2%.

Fig. 7 shows laboratory clay evaluations on a plant operating on both floridin and subsequently on pressure activated floridin. In the first case the average efficiency over 17 burns would be about 70% and on the pressure activated clay it is 95%.

Fig. 8 gives the results on composite samples collected automatically and are particularly interesting because of the smoothness of the curve. An average efficiency for 18 burns of 53% was obtained on floridin and an efficiency of 73% on the pressure treated floridin.

These curves all bring out strikingly the fact that bauxites furnish a cure where serious overburning is occurring in any plant and are a substitute for close burner control. However, the use of improved fullers earth, as well as the new technique for control of burning temperatures will enable fullers earth to stay in the picture in comparison with bauxites, as well as to compete on a price basis, and show a substantial savings over operation on bauxites in many instances.

There are certain other features that have to be taken into consideration in various plants. The use of activated bauxites will increase filter house capacities from 5 to 40 per cent over present operation on floridin, depending on the overall efficiencies obtainable from floridin. To some the added capacity would be of no value, but to others it would be worth a considerable sum, as otherwise it would be necessary to consider additional filters and burning equipment, propane deresining or other means by which filter house capacities may be materially increased. The lack of necessity of keeping separate burns and solution of the disposal problem are undoubted advantages with bauxite, but their economic value can not be dealt with generally, but must be evaluated by each individual plant for their own set of conditions.

William R. Quattrocchi

Diesel, Tractor Fuel Up

CLEVELAND, June 14.—Effective June 15 Standard Oil Co. of Ohio posted the following prices on tractor and Diesel fuel oils, in tank wagon or steel drum deliveries: Nos. 1 and 2, 8 cents per gallon; Nos. 3 and special, 7.5 cents, all plus applicable tax. These new prices represent an advance of 0.5 cent on the three latter grades. No. 1 was unchanged.

PARIS, June 11.—W. L. Gomory, formerly with Paris offices at 92 Avenue des Champs-Elysees, is returning to New York. His offices will be at 370 Lexington Avenue. He is technical and patent counsel in Europe for the Process Management Co., New York.

LOS ANGELES, June 14.—William J. Kemnitzer, petroleum technologist, has been commissioned a lieutenant commander in the U. S. Naval Reserve. He recently appeared as an expert witness for the federal government in litigation involving naval petroleum lands in the Elk Hills, Cal.

Named Sales Manager

WILLIAM R. QUATTROCCHI has been made general sales manager of Warner-Quinlan Co., succeeding A. M. Talbot, who resigned.

Mr. Quattrocchi was president of the Fuel Oil Association of New York for three years, and is a director of that organization. He is a member of the New York State Petroleum Industries Committee and a director of the Metropolitan Oil Burner and Air Conditioning Association. He is also a member of the American Petroleum Institute and Oil Burner Institute Committee.

Prior to his association with Warner-Quinlan Company he had his own business in the Middle West, and since that time has devoted his attention to the fuel oil trade here.

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). Prices in cents per gallon, except heavy fuel oils in dollars per barrel, tank car lots, f.o.b. refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included, unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Prices effective June 14, 1937

Gasoline *and* Naphtha

OKLAHOMA

U. S. Motor gasoline:

62 octane and below	5.125– 5.25
63-67 octane	5.50 – 5.625
68-70 octane (regular)	6.125– 6.25
60-62, 400 e.p. gasoline	5.125– 5.25
64-66, 375 e.p. gasoline	*5.25 – 5.375
68-70, 350-360 e.p. gasoline	*5.25 – 5.50

WESTERN PENNA.

Bradford-Warren:

52-54 naphtha	5.625– 5.75

Motor gasoline:

U. S. Motor (58-62°)	5.75 – 5.875
Minimum 60 octane	*7.125– 7.25
Minimum 65 octane	*7.25 – 7.375
64-66, 390 e.p. gasoline	5.875– 6.00
68-70, 350-360 e.p. gasoline	6.00 – 6.125

Other districts:

52-54 naphtha	5.50 – 5.625
54-56 naphtha	5.625– 5.75

Motor gasoline:

U. S. Motor (58-62°)	5.75 – 6.00
Minimum 60 octane	7.125– 7.25
Minimum 65 octane	7.25 – 7.625
64-66, 390 e.p. gasoline	5.75 – 5.875
68-70, 350-360 e.p. gasoline	6.00 – 6.125

CALIFORNIA (3c tax to be added to prices if used in state)

54-58 U. S. Motor, 437 e.p. for in-state shipment	7.75 – 9.25
54-58 U. S. Motor, 437 e.p. for out-side state shipment	8.25 – 9.25
58-61, 375-400 e.p. gasoline, 65 octane and above	8.50 – 9.75

†NORTH TEXAS (For shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).

U. S. Motor gasoline:

62 octane and below	5.125– 5.375
63-67 octane	5.50 – 5.625
68-70 octane (regular)	6.00 – 6.375
60-62, 400 e.p. gasoline	*5.125– 5.375

KANSAS (For Kansas destinations only)

U. S. Motor gasoline:

62 octane and below	5.375– 5.625
68-70 octane (regular)	6.375– 6.625

†WEST TEXAS and NEW MEXICO

U. S. Motor gasoline:

62 octane and below	5.125
63-67 octane	5.50
68-70 octane (regular)	6.125

†EAST TEXAS

60-62, 400 e.p. gasoline	*5.25 – 5.375

NORTH LOUISIANA (For shipment within Louisiana and into Arkansas)

U. S. Motor gasoline:

62 octane and below	5.50 – 5.625
63-67 octane	5.75 – 6.00
68-70 octane (regular)	6.50

ARKANSAS (For shipment within Arkansas and into Louisiana).

U. S. Motor Gasoline:

62 octane and below	5.50
63-67 octane	6.00

OHIO (Quotations of S. O. Ohio. Delivered any point in Ohio).

U. S. Motor gasoline	8.875
Above 65 octane	9.125

Natural Gasoline

(Prices are those to blenders on freight basis shown below. Shipments, however, may originate in other Mid-Continent manufacturing districts, such as Panhandle Texas, Southwest Texas or Kansas.)

F.O.B. GROUP 3

Grade 26-70	3.625

F.O.B. BRECKENRIDGE

Grade 26-70	3.625

CALIFORNIA (F.o.b. plants in Los Angeles basin)

75-85, 375-390 e.p. for blending	7.75

*Nominal.

‡Only one refiner quoting.

†Refiners report they generally receive from 0.25c to 0.5c per gallon more for gasoline and kerosine for local or differential territory shipment.

Kerosine

WESTERN PENNA.

Bradford-Warren:

45 w.w. kerosine	4.75 – 4.875
46 w.w. kerosine	4.875– 5.00
47 w.w. kerosine	5.00 – 5.125

Other districts:

45 w.w. kerosine	4.75 – 4.875
46 w.w. kerosine	4.875– 5.00
47 w.w. kerosine	5.00 – 5.125

OKLAHOMA

41-43 w.w. kerosine	4.25 – 4.375
42-44 w.w. kerosine	4.375– 4.50

KANSAS (For Kansas destinations only).

41-43 w.w. kerosine	4.375– 4.50
42-44 w.w. kerosine	4.50 – 4.75

†NORTH TEXAS (For shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).

41-43 w.w. kerosine	4.375

†EAST TEXAS

41-43 w.w. kerosine	*4.00 – 4.125

NORTH LOUISIANA (For shipment within Louisiana and into Arkansas).

41-43 w.w. kerosine	4.625

ARKANSAS (For shipment within Arkansas and and into Louisiana).

41-43 w.w. kerosine	‡4.75

CALIFORNIA

38-40 w.w. kerosine	4.00 – 5.50

Gas *and* Fuel Oils

WESTERN PENNA.

Bradford-Warren:

36-40 fuel oil	4.50

Other districts: (Excluding Pittsburgh District Prices).

36-40 fuel oil	4.25 – 4.375

OKLAHOMA

No. 1 white fuel oil	3.875– 4.00
No. 1 straw fuel oil	3.625– 3.875
No. 2 straw fuel oil	3.50 – 3.625
No. 2 dark fuel oil	3.375– 3.50
U. G. I. gas oil	3.00 – 3.25
28-30 zero	3.375– 3.50
28-30	‡$1.25
24-26	*$0.925–$0.95
18-22	*$0.825–$0.90
14-16	*$0.80 –$0.85

KANSAS (For Kansas destinations only).

No. 1 p.w. fuel oil	4.25
10-14 fuel oil	$0.775–$0.85

NORTH TEXAS (For shipment to Texas and New Mexico; Group 3 prices quoted on northern shipments).

No. 1 white, fuel oil	*4.00
U. G. I. gas oil	2.75 – 2.875
24-26 fuel oil	$0.85 –$0.875
18-22 fuel oil	$0.80 –$0.825

NORTH LOUISIANA (For shipment within Louisiana and into Arkansas).

No. 2 fuel oil	3.50 – 3.625
20-24 fuel oil	$1.10 –$1.15
16-20 fuel oil	$0.95 –$1.00
10-14 fuel oil	$0.80 –$0.85

ARKANSAS (For shipment within Arkansas and into Louisiana).

No. 2 fuel oil	‡3.625
28-30 gas oil, zero	‡3.375

CALIFORNIA

San Joaquin Valley:

Grade C fuel oil	$0.70 –$1.00
Diesel fuel oil	$1.20 –$1.68
Stove distillate	$1.47 –$2.10

Los Angeles:

Grade C fuel oil	$0.70 –$1.10
Diesel fuel	$1.20 –$1.68
Stove distillate	$1.26 –$2.10

San Francisco:

Grade C fuel oil	$1.15 –$1.37
Diesel fuel	$1.89
Stove distillate	$2.31

Neutral Oils

WESTERN PENNA.

Viscous Neutrals (Viscosity at 70° F.)

200 Vis. (180 at 100°) No. 3 color, 420-425 flash:	
0 pour test	30.00 –30.50
10 pour test	29.00 –29.50
15 pour test	28.50 –29.00
25 pour test	27.50 –28.00
180 Vis. (165 at 100) No. 3 color, 410-415 flash:	
25 pour test	26.00 –26.50
150 Vis. (143 at 100) No. 3 color, 400-405 flash:	
0 pour test	25.50 –26.00
10 pour test	24.50 –25.00
15 pour test	24.00 –24.50
25 pour test	23.00 –23.50

SOUTH TEXAS

Vis.	Color	
Pale Oils: (*Viscosity at 100° F.; pour test 0*)		
100	No. 1½-2½	5.25 – 5.50
200	No. 2-3	7.25 – 7.50
300	No. 2-3	7.75 – 8.00
500	No. 2½-3½	8.75 – 9.00
750	No. 3-4	9.25 – 9.50
1200	No. 3-4	9.75 –10.00
2000	No. 4	10.00 –10.25
Red Oils:		
200	No. 5-6	7.25 – 7.50
300	No. 5-6	7.75 – 8.00
500	No. 5-6	8.75 – 9.00
750	No. 5-6	9.25 – 9.50
1200	No. 5-6	9.75 –10.00
2000	No. 5-6	10.00 –10.25

Note: South Texas red oil prices shown above cover oils with green cast; blue cast red oils are slightly lower in some cases.

MID-CONTINENT (Viscosity at 100° F.; F.o.b. Tulsa basis).

(0 to 10 Pour Point)

Vis.	Color	
Pale Oils:		
60-85	No. 2	5.50
86-110	No. 2	6.00
150	No. 3	9.00
180	No. 3	10.00
200	No. 3	10.50
250	No. 3	11.50
280	No. 3	12.50
300	No. 3	13.00
Red Oils:		
180	No. 5	9.00
200	No. 5	9.50
250	No. 5	10.50
280	No. 5	11.50
300	No. 5	11.75

Note: Viscous oils, 15-25 pour point, generally are quoted 0.5c under 0-10 pour point oils. Non-viscous oils, 15-25 pour point generally are quoted 0.25c under 0-10 pour point oils. Viscous oils (150-300 vis.), No. 4 color, generally are quoted 0.5c above No. 5 color oils.

CHICAGO (Vis. at 100° F.)

Vis.	Color	
Pale Oils **0 to 10 pour point:		
60-85	No. 2	7.25
86-110	No. 2	7.75
150	No. 3	10.00
180	No. 3	11.00
200	No. 3	11.50
250	No. 3	12.50
Red Oils		
180	No. 5	10.00
200	No. 5	10.50
250	No. 5	11.50
280	No. 5	12.50
300	No. 5	12.75

**Viscous oils, 15 to 30 pour point are quoted 0.5c lower. 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 pour point, are quoted 0.25c lower, beginning March 15, 1937. To obtain delivered prices in Chicago, add 0.25c per gal.

Cylinder Stocks

MID-CONTINENT (F.o.b. Tulsa basis).

Bright Stocks:	
190-200 Vis. at 210° D	23.00
150-160 Vis. at 210° D:	
0 to 10 pour point	20.00
10 to 25 pour point	19.50
25 to 40 pour point	19.00
150-160 Vis. at 210° E	19.00

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Long possessed of this world-wide reputation, The Ohio Oil Company has not been content with crude oil production alone, but has forged ahead to a clearly defined leadership in the refining and marketing of crude oil products. Today The Ohio Oil Company is known as one the country's foremost integrated petroleum organizations.

High quality LINCO GASOLINES and MARATHON MOTOR OILS are made at our own strategically located refineries, insuring constant supply to hundreds of jobber and dealer outlets for public demand--a certainty that is growing more and more each year because our dependable products are preferred by motorists everywhere.

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MARATHON PRODUCTS BEST IN THE LONG RUN

LINCO

THE OHIO OIL COMPANY

GENERAL OFFICES - - - - FINDLAY, OHIO

ROBINSON, ILLINOIS TULSA, OKLAHOMA FT. WORTH, TEXAS

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days) unless otherwise stated. Prices in cents per gallon, except heavy fuel oils in dollars per barrel, tank car lots, f.o.b. refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included, unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Prices effective June 14, 1937

Cylinder Stocks (cont'd)

Mid-Continent (cont'd)

120 Vis. at 210° D:	
0 to 10 pour point	19.00
10 to 25 pour point	18.50
25 to 40 pour point	18.00
600 Stm. Rfd. Dark Green	5.50 – 7.50
600 Stm. Rfd. Olive Green	7.00 – 9.50
631 Steam Refined	‡17.50
Black Oil	3.50 – 4.00

CHICAGO (Viscosity at 210°)

Unfiltered Steam Refined:	
140	9.00
160	10.00
200	11.00
Bright stocks, 160 vis. at 210. No. 8 color:	
0 to 10 pour point	21.75
15 to 25 pour point	21.25
30 to 40 pour point	20.75
E filtered Cyl. Stock	15.50

To obtain prices delivered in Chicago, add 0.25c per gal.

‡Only one refiner quoting.

WESTERN PENNA.

600 stm. rfd. filterable	17.00 –17.50
650 steam refined	19.00 –19.50
600 flash	20.00 –20.50
630 flash	24.00 –24.50
600 Warren E	19.00 –19.50
Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color:	
10 pour test	28.00 –28.50
15 pour test	27.00 –27.50
20 pour test	26.00 –26.50
25 pour test	25.00 –25.50

Petrolatums

WESTERN PENNA. (Per pound, in barrels, carload lots. In tank cars, 0.5c per pound less).

Snow white	6.625– 6.75
Lily White	5.625– 5.75
Cream White	4.625– 4.75
Light Amber	2.75 – 2.875
Amber	2.50 – 2.625
Red	2.125– 2.375

Wax

WESTERN PENNA. (Per pound, f.o.b. New York basis)

122-124 wh. crude scale, A.m.p.	2.90 – 2.95
124-126 wh. crude scale, A.m.p.	2.95 – 3.00

OKLAHOMA (Per pound in barrels; in a few instances, per pound in burlap bags).

124-126 wh. crude scale, A.m.p.	2.875– 3.00

CHICAGO (In bags, carload lots. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.)

Fully refined:	
122-124	4.65 – 4.75
125-127	4.90 – 5.00
127-129	5.05 – 5.15
130-132	**5.45 – 5.55
132-134	**5.70 – 5.80
135-137	**6.45 – 6.55

**Same prices quoted in bags or slabs loose.

MID-WESTERN TANK CAR MARKET

Prices are those made by Chicago sellers, on Group 3 (Oklahoma) freight basis, although shipments may originate in other South-western or Mid-western refining districts

Gasoline

U. S. Motor gasoline:	
62 octane and below	5.00 – 5.25
63-67 octane	5.375– 5.50
68-70 octane (regular)	5.875– 6.125
60-62, 400 e.p.	5.125– 5.25
64-66, 375 e.p.	‡5.25
68-70, 350-360 e.p.	‡5.375

Kerosine

41-43 w.w.	4.125– 4.25
42-44 w.w.	4.25 – 4.375

*Nominal.

‡Only one seller quoting.

Fuel *and* Gas Oils

Domestic:

No. 1 prime white	3.875– 4.00
No. 1 straw	3.625– 3.875
No. 2 straw	3.375– 3.50
No. 2 dark	3.125– 3.375
No. 3	3.00 – 3.25
No. 4	$1.05 –$1.15
No. 5	$0.85 –$0.90

Industrial:

No. 4	$0.95 –$1.05
No. 5	$0.80 –$0.90

Industrial (cont'd)

No. 6	$0.70 –$0.80
U. G. I. gas oil	2.875– 3.25

Naphtha and Solvent

Stoddard solvent	6.875
Cleaners' naphtha	7.375
V. M. & P. naphtha	7.375
Mineral spirits	6.375
Rubber solvent	7.375
Lacquer diluent	8.575

DAILY GASOLINE PRICES

Daily range of gasoline prices as reported in PLATT'S OILGRAM, (Week Ended June 11, 1937)

	June 7	June 8	June 9	June 10	June 11
U. S. Motor, 62 octane and below:					
*North Texas	5.125– 5.375	5.125– 5.375	5.125– 5.375	5.125– 5.375	5.125– 5.375
West Texas	5.125	5.125	5.125	5.125	5.125
Oklahoma	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25
Mid-Western (Group 3 basis)	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
U. S. Motor, 63-67 octane:					
*North Texas	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
West Texas	5.50	5.50	5.50	5.50	5.50
Oklahoma	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
Mid-Western (Group 3 basis)	5.375– 5.50	5.375– 5.50	5.375– 5.50	5.375– 5.50	5.375– 5.50
U. S. Motor, 68-70 octane (regular)					
*North Texas	6.00 – 6.375	6.00 – 6.375	6.00 – 6.375	6.00 – 6.375	6.00 – 6.375
West Texas	6.125	6.125	6.125	6.125	6.125
Oklahoma	6.125– 6.25	6.125– 6.25	6.125– 6.25	6.125– 6.25	6.125– 6.25
Mid-Western (Group 3 basis)	5.875– 6.125	5.875– 6.125	5.875– 6.125	5.875– 6.125	5.875– 6.125
Motor Gasoline, 60-64 octane					
New York harbor	†7.25	†7.25	†7.25	†7.25	†7.25
Philadelphia district	†7.00	†7.00	†7.00 – 7.25	†7.25	†7.25
Baltimore district	†7.25	†7.25	†7.25	†7.25	†7.25
Motor Gasoline, 65 octane & above					
New York harbor	†7.50	†7.50	†7.50	†7.50	†7.50
Philadelphia district	†7.25	†7.25	†7.25 – 7.50	†7.50	†7.50
Baltimore district	†7.50	†7.50	†7.50	†7.50	†7.50
U. S. Motor Gasoline, 58-62°					
Bradford-Warren (Western Penna.)	5.75 – 5.875	5.75 – 5.875	5.75 – 5.875	5.75 – 5.875	5.75 – 5.875
Other districts (Western Penna.)	5.75 – 5.875	5.75 – 5.875	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
Motor Gasoline, Minimum 60 octane					
Bradford-Warren (Western Penna.)	†7.125– 7.25	†7.125– 7.25	†7.125– 7.25	†7.125– 7.25	†7.125– 7.25
Other districts (Western Penna.)	7.125– 7.25	7.125– 7.25	7.125– 7.25	7.125– 7.25	7.125– 7.25
Motor Gasoline, Minimum 65 octane					
Bradford-Warren (Western Penna.)	†7.25 – 7.375	†7.25 – 7.375	†7.25 – 7.375	†7.25 – 7.375	†7.25 – 7.375
Other districts (Western Penna.)	7.25 – 7.50	7.25 – 7.50	7.25 – 7.625	7.25 – 7.625	7.25 – 7.625

*For shipment to Texas and New Mexico destinations; Group 3 prices are quoted on northern shipments.

†Nominal.

‡Nominal. Some sellers quote 0.25c less for New Jersey delivery.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect June 14, 1937, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. New Jersey

ESSOLENE

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Atlantic City, N. J.	7.5	9	4	*	8
Newark, N. J.	7.5	9	4	*	8
Annapolis, Md.	8.6	10.1	5	*	10
Baltimore, Md.	8	9.5	5	*	8.5
Cumberland, Md.	9.4	11.9	5	*	10
Washington, D. C.	8	9.5	3	16	9
Danville, Va.	9.2	11.7	6	*	12.9
Norfolk, Va.	8	10.5	6	*	11.5
Petersburg, Va.	8.3	10.8	6	*	11.7
Richmond, Va.	8.3	10.8	6	*	11.7
Roanoke, Va.	9.5	12	6	*	12.9
Charleston, W. Va.	8.8	11.3	6	*	12.6
Parkersburg, W. Va.	8.1	10.6	6	*	11.2
Wheeling, W. Va.	9	10.5	6	*	12.2
Charlotte, N. C.	9.4	11.9	7	*	12.6
Hickory, N. C.	9.9	12.4	7	*	13
Mt. Airy, N. C.	9.7	12.2	7	*	12.8
Raleigh, N. C.	9	11.5	7	*	12.1
Salisbury, N. C.	9.5	12	7	*	12.7
Charleston, S. C.	8	10.5	7	*	11.1
Columbia, S. C.	9	11.5	7	*	12.1
Spartanburg, S. C.	9.7	12.2	7	*	12.9

*S. O. New Jersey transferred stations to dealers; no prices available.

Price basis to undivided dealers: Dealer t.w. price less 0.5c per gal.

Price basis to commercial consumers: To contract accounts, purchasing at least one full compartment at a time by hose connection: Effective March 12, 1937, in New Jersey, and March 8 in Maryland, District of Columbia, and in Arlington and Fairfax Counties in Virginia, on yearly purchases: from 2,500 to 100,000 gals., consumer t.w. price at time and place of delivery; 100,000 gals. per year, consumer tank car price, plus 0.5c per gal. Generally consumer t.w. price in foregoing states is equivalent of dealer t.w. price, less 0.5c per gal.

Effective May 15, 1937, on Essolene and Esso (by tank wagon) in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax Counties, which see above), commercial consumers taking deliveries of 50 gals. (West Va. 100 gals.) or more at one time will be billed at the posted consumer t.w. price. Deliveries less than 50 gals. (West Va. 100 gals.) will be billed at 4c per gal. over posted consumer t.w. price. Generally, posted consumer t.w. price will be equivalent to the dealer price less 0.5c per gal.

Kerosine Discount: 1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(S. O. New York Division)

SOCONY MOBILGAS

	Consumer Tank Car	"Split" Dealer T.W.	Taxes	Total "Split" Dealer T.W.	Kerosine T.W.
Metropolitan N. Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	8.5	10	*5	15	9
Borough of Richmond (Staten Is.)	8.5	10	*5	15	9
Albany, N. Y.	8.5	10	5	15	9
Binghamton, N. Y.	9.25	10.8	5	15.8	9.5
Buffalo, N. Y.	8.67	10.3	5	15.3	9
Jamestown, N. Y.	8.28	10.8	5	15.8	9.5
Plattsburg, N. Y.	8.9	10.9	5	15.9	9.5
Rochester, N. Y.	8.74	10.3	5	15.3	9
Syracuse, N. Y.	8.7	10.3	5	15.3	9.5
Danbury, Conn.	8.8	10.3	4	14.3	9
Hartford, Conn.	9.1	10.6	4	14.6	9
New Haven, Conn.	8.5	10	4	14	9
Bangor, Me.	9.1	11.3	5	16.3	9.5
Portland, Me.	8.5	10.8	5	15.8	8.75
Boston, Mass.	8.5	8.8	4	12.8	8.5
Concord, N. H.	9.2	11.8	5	16.8	9.5
Lancaster, N. H.	10.1	12.8	5	17.8	10.25
Manchester, N. H.	9	11.3	5	16.3	9.5
Providence, R. I.	8.5	9	4	13	8.25
Burlington, Vt.	8.9	10.9	5	15.9	9.5
Rutland, Vt.	9.2	11.2	5	16.2	9.75

*Plus 2% city sales tax computed at time of each sale.

Note: Socony-Vacuum has transferred all service stations to dealers; no prices available.

Price basis to undivided dealers: 0.5c less than "split" dealer t.w.

Price basis to commercial consumers: Effective about Nov. 15, 1936 in New York and New England, for tank wagon delivery: monthly purchases of 25,000 gals. or over, pay consumer tank car price at point of delivery, plus 0.5c gal.; monthly purchases of 5,000 to 25,000 gals., pay undivided dealer tank wagon price at point of delivery; monthly purchases of less than 5,000 gals., pay divided dealer tank wagon price at point of delivery. Private consumers pay undivided dealer tank wagon price at point of delivery, plus 2c gal.

Atlantic Refining

ATLANTIC WHITE FLASH GASOLINE

	Commercial Tank Car	All Taxes	Total Dealer T.W.	S.S.	Kerosine T.W.
Philadelphia, Pa.	7.5	5	14	17.5	10.5
Pittsburgh	8.5	5	15.5	20	11
Allentown	8.25	5	14.5	**	11
Erie	8	5	14.5	**	10
Scranton	8.25	5	14.5	**	11
Altoona	8.5	5	15.5	**	11
Harrisburg	8.25	5	14.5	**	11
Williamsport	8.5	5	15.5	**	11
Dover, Del.	...	5	14.5	**	11
Wilmington	...	5	13.5	**	11
Boston, Mass.	...	4	14	**	7.5
Springfield, Mass.	...	4	14.8	**	7.5
Worcester, Mass.	...	4	14.3	**	8
Fall River, Mass.	...	4	14	**	7.75
Hartford, Conn.	...	4	14.6	**	7
New Haven, Conn.	...	4	14	**	7
Providence, R. I.	...	3	13	**	7.75
Atlantic City, N. J.	...	4	13	**	8
Camden, N. J.	...	4	13	**	8
Trenton, N. J.	...	4	13	**	8
Annapolis, Md.	...	5	15.1	**	9.5
Baltimore, Md.	...	5	14.5	**	8.5
Hagerstown, Md.	...	5	15.5	**	10
Richmond, Va.	...	6	16.8	**	11.7
Wilmington, N. C.	...	7	17.6	**	11.3
Brunswick, Ga.	...	7	17.5	**	*13
Jacksonville, Fla.	...	8	17.5	**	11

*Georgia has kerosine tax of 1c per gal., not included in above price.

**Atlantic Refining transferred stations to dealers; no prices available.

Price basis to undivided dealers: Dealer t.w. less 0.5c per gal.

Price basis to commercial consumers: in Penna. and Delaware, effective Mar. 11, 1937, on yearly gasoline purchases to contract accounts taking full compartment hose deliveries, using 100,000 gals. or more per year, tank car price plus 0.5c per gal.; consumers taking less than 100,000 gals., undivided dealer price. Consumers under contract and not under contract, taking less than full compartment delivery, and consumers not under contract taking full compartment delivery, get divided dealer price. Consumers taking less than 25 gals., t.w delivery, get 4c above undivided dealer price.

Discount on kerosine: Effective Oct. 29, 1936, in Pennsylvania and Delaware 2c per gal. off t.w. price on t.w. deliveries of 25 gals. or more at one time.

S. O. Ohio

SOHIO X-70 GASOLINE

	All Taxes	**Commercial T.W.	†Divided Dlr.	Kerosine T.W.
Ohio State-Wide	5	17	15.5	16	*13.5
Counties where prices are below statewide:					
Columbiana	5	16.5	15	15.5	....
Defiance, Franklin, Knox and Pickaway:					
	5	16	14.5	15	....
Paulding	5	15.5	14	14.5	....

RENOWN GASOLINE (Third Grade)

Ohio State-Wide	5	16.5	15	15.5	....
Counties where prices are below statewide:					
Columbiana	5	16	14.5	15	....
Defiance, Franklin, Knox, and Pickaway					
	5	15.5	14	14.5	....
Paulding	5	15	13.5	14	....
Counties where prices are above statewide: Butler, Clermont, Darke, Greene, Hamilton, Hocking, Miami, Montgomery, Preble, Summit, and Warren	5	17	15.5	16	....

S. O. Ohio Cont.

KEROSINE PRICES

(Off Statewide Level)

Kerosine prices are off statewide level in the following counties:

Gallia and Washington *13

Allen, Ashtabula, Auglaize, Champaign, Columbiana, Darke, Geauga, Greene, Hancock, Hardin, Logan, Mahoning, Mercer, Preble, Putnam, Shelby, Trumbull, Union, Van Wert and Wyandot: *12.5

Paulding *12

Fayette, Licking, Madison, Pickaway, Portage and Summit * 9.5

*Kerosine prices include 1c state tax.

**Tank wagon price to commercial consumers, in t.w. deliveries of 25 gals. or more; less than 25-gal. deliveries get s.s. price. Price to undivided dealers is same as to commercial consumers.

†This price also to authorized agents, exclusive of 0.5c rental.

Sales tax: Ohio's 3% sales tax, effective Jan. 27, 1935, is added "where assessable, to regular posted prices", S. O. Ohio says.

On kerosine, prices to resellers and commercial consumers are posted generally at 3c per gal. below consumer t.w. price in any quantity, when such prices are on state-wide level.

S. O. Kentucky

CROWN GASOLINE

(Regular Grade)

	Consumer T.W.	All Taxes	Total Consumer T.W.	Net Dlr.	Kerosine T.W.
Covington, Ky.	13.5	6	19.5	16.5	11
Lexington, Ky.	14	6	20	17	11
Louisville, Ky.	14	6	20	17	10.5
Paducah, Ky.	14	6	20	17	8
Jackson, Miss.	14	7	21	18	*13
Vicksburg, Miss.	13.5	7	20.5	17.5	*13
Birmingham, Ala.	13	*8	21	18	12
Mobile, Ala.	13	*9	22	19	11
Montgomery, Ala.	13	*9	22	19	*14.5
Atlanta, Ga.	14	7	21	18	*13
Augusta, Ga.	14	7	21	18	*14
Macon, Ga.	14.5	7	21.5	18.5	*14.5
Savannah, Ga.	12	7	19	16	*12
Jacksonville, Fla.	12.5	8	20.5	17.5	11
Miami, Fla.	12.5	8	20.5	17.5	11.5
Pensacola, Fla.	13	*9	22	19	12
Tampa, Fla.	12.5	*9	21.5	18.5	11

KYSO GASOLINE

(Third Grade)

Covington, Ky.	12	6	18	15.5	....
Lexington, Ky.	12.5	6	18.5	16	....
Louisville, Ky.	12.5	6	18.5	16	....
Paducah, Ky.	12	6	18	15.5	....
Jackson, Miss.	12.5	7	19.5	17	....
Vicksburg, Miss.	12	7	19	16.5	....
Birmingham, Ala.	11	*8	19	16.5	....
Mobile, Ala.	10.5	*9	19.5	17	....
Montgomery, Ala.	10.5	*9	19.5	17	....
Atlanta, Ga.	11	7	18	15.5	....
Augusta, Ga.	12	7	19	16.5	....
Macon, Ga.	10.5	7	17.5	15	....
Savannah, Ga.	10.5	7	17.5	15	....
Pensacola, Fla.	11	*9	20	17.5	....

Discounts to tank wagon consumers: Effective Jan. 4, 1937, thru territory, on Crown gasoline, 3c per gal. below consumer t.w. price; on Kyso, 2.5c below.

Discounts on kerosine: Prices in Kentucky are net, but in other states subject to 2c discount.

**Taxes*: in the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola and Tampa, both 1c city. Georgia and Mississippi kerosine prices include 1c state tax. Montgomery kerosine prices includes 1c city tax.

S. O. Indiana

	Red Crown Tax	Dealer Prices Crown Total T.W.	Red Crown	Stanolind	Kerosine T.W.
Chicago, Ill.	4	15.5	13.5	12	10.1
Decatur, Ill.	4	15.5	14	13.5	10.1
Joliet, Ill.	4	15.5	14	13.5	10.1
Peoria, Ill.	4	15.5	14	13.5	10.1
Quincy, Ill.	4	15.3	13.8	13.3	9.9
Indianapolis, Ind.	5	17.2	15.7	15.2	*13.6
Evansville, Ind.	5	17	15.5	15	*14.6
South Bend, Ind.	5	17.4	15.9	15.4	*13.6

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls.; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal., in lots of more than 50 bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.

Kerosine inspection fee only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/10c for next 15, and 1/5c per gal. in lots over 25 bbls.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect June 14, 1937, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. Indiana Cont.

	Red Crown Tax	Dealer Prices Red Crown Total T.W.	Stanolind	Kerosine T.W.
Detroit, Mich	4	15.4	13.9	13.4	9.8
Grand Rapids, Mich	4	16.5	15	14.5	10.9
Saginaw, Mich	4	16.3	14.8	14.3	8.5
Green Bay, Wis	5	17.2	15.7	15.2	8.6
Milwaukee, Wis	5	16.8	15.3	14.2	10.4
La Crosse, Wis	5	16.9	15.4	14.9	10.5
Minneapolis-St. Paul	5	16.9	15.4	14.9	10.5
Duluth, Minn	5	17.3	15.8	15.3	10.9
Mankato, Minn	5	16.9	15.4	14.9	10.5
Des Moines, Ia	4	15.3	13.8	13	*12.9
Sioux City, Ia	4	15.5	14	13.5	*13.1
Davenport, Ia	4	15.5	14	13.5	*13.1
Mason City, Ia	4	15.7	14.2	13.7	*13.3
St. Louis, Mo	*4	15.2	13.7	12.2	9.8
Kansas City, Mo	*4	14.9	13.4	12.9	8.9
St. Joseph, Mo	*4	14.9	11.4	11.4	6.9
Fargo, N. D.	4	16.9	15.4	14.9	11.5
Minot, N. D.	4	18.1	16.6	16.1	12.7
Huron, S. D.	*5	17.3	15.8	15.3	*10.9
Wichita, Kans	4	14.4	12.9	12.3	8.9

*Taxes: in the tax column is included these city and state gasoline taxes at following points: Kansas City, St. Joseph and St. Louis, 1c city tax; South Dakota, 0.1c sales tax. State Kerosine taxes: Indiana, 4c; Iowa, 3c, all included in above prices.

Discount to commercial consumers: Effective Jan. 1, 1935, thru territory, except Michigan effective Feb. 1, on purchases per month, discount off t.w. prices; all gasolines, 25 to 1,000 gals., at t.w. price; 1,000 gals., or more, 1.5c off t.w. on Ethyl and Red Crown, and 1c on Stanolind (latter effective June 9, 1937). Minimum delivery is 25 gals.

S. O. Nebraska

STANDARD RED CROWN GASOLINE

	All Tax	T.W. Total	Dealer Total	Kerosine T.W.
Omaha, Neb	6	17.9	16.4	10.4
McCook	6	18	17.1	10
Norfolk	6	18.3	16.8	10.8
North Platte	6	18.7	17.2	11.2
Scottsbluff	6	19.4	17.9	10.9

Discounts to commercial consumers: for tank wagon deliveries covered only by Standard Commercial Consumer Contract, effective January 1, 1935.

S. O. Louisiana

ESSOLENE

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Little Rock, Ark	8	10.5	7.5	**	11.5
Alexandria, La	8	10.5	8	**	*12
Baton Rouge, La	7.5	10	8	21.5	*12
New Orleans, La	7.5	10	*10	23.5	*14
Lake Charles, La	8.5	11	8	**	*12.5
Shreveport, La	7	9.5	8	**	* 9.5
Lafayette, La	8.5	11	8	**	*12.5
Bristol, Tenn	10.5	11.75	8	**	14.5
Chattanooga, Tenn	10	12.5	8	**	13.5
Knoxville, Tenn	10.5	13	8	**	14
Memphis, Tenn	8.5	11	8	**	12
Nashville, Tenn	9.5	12	8	**	11

*New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana kerosine prices include 1c state tax; in addition New Orleans has 1c parish tax.

**S. O. Louisiana transferred stations to dealers; no prices available.

Price basis to dealers: Undivided dealers get dealer price, less 0.5c.

Price basis to commercial consumers: Effective May 15, 1937, thru territory; commercial consumers taking 50 gals. or more at one time will be billed at posted consumer t.w. price; those taking less than 50 gals. at one time will be billed at 4c per gal. over posted consumer t.w. price. Generally, the posted consumer t.w. price will be equivalent to the dealer price less 0.5c per gal.

Humble Oil & Refining Co.

HUMBLE MOTOR FUEL

	*100% Dlr. T.W.	Total Taxes	*100% Dlr. T.W.	S.S.	Kerosine T.W.
Dallas, Tex	8.5	5	13.5	17	8
Ft. Worth, Tex	8.5	5	13.5	17	8
Houston, Tex	9.5	5	14.5	18.5	8
San Antonio, Tex	9.5	5	14.5	18.5	8

Humble Oil & Rfg. Co. Cont.

U. S. MOTOR FUEL

(*Third Grade*)

	*100% Dlr. T.W.	Total Taxes	*100% Dlr. T.W.	S.S.	Kerosine T.W.
Dallas, Tex	7	5	12	14	
Ft. Worth, Tex	7	5	12	14	
Houston, Tex	8.5	5	13.5	16.5	
San Antonio, Tex	8.5	5	13.5	16.5	

*Price is t.w. price to contract dealers and commercial consumers. Price to open dealers is 0.5c above t.w. prices shown above.

Price basis to dealers: to contract dealers consumer accounts off posted retail price: when posted retail price, including all taxes on Esso motor fuel is: 19.1c per gal. and above discount is 4c; 19c to 18.1c, 3.5c, and 18c and below, 3c. Humble motor fuel, 17.1c and above, 4c; 17 to 16.1c, 3.5c; and 16c and below, 3c; U. S. motor fuel, 15.1c and above, 3c; 15 to 14.1c, 2.5c; and 14c and below, 2c. To "open" dealer accounts, discounts in each case are 0.5c less on the same price basis.

Continental Oil

	Conoco Bronze Ex-Tax	All Tax	Dealer Prices Total Conoco Bronze	Demand	Kerosine T.W.
Denver, Colo	12.5	5	17.5	16.5	11.5
Grand Junc., Colo	15	5	20	19	15
Pueblo, Colo	11	5	16	15	10.5
Casper, Wyo	13	5	18	17	11.5
Cheyenne, Wyo	13	5	18	17	13
Billings, Mont	15.5	6	21.5	20.5	15.5
Butte, Mont	13.5	6	19.5	16.5	15.5
Great Falls, Mont	15.5	6	21.5	20.5	15.5
Helena, Mont	15.5	6	21.5	20.5	15.5
Salt Lake City, Utah	14.5	5	19.5	16.5	16
Boise, Ida	15.5	6	21.5	20.5	18
Twin Falls, Ida	15.5	6	21.5	20.5	18
Albuquerque, N. M.	11	†6.5	17.5	16.5	12
Roswell, N. M.	12	†6.5	18.5	15	10.5
Santa Fe, N. M.	13	*7	20	16.5	12
Muskogee, Okla	10	5	15	14	7
Oklahoma City, Okla.	10	5	15	12	8
Tulsa, Okla	9	5	14	13	7
Ft. Smith, Ark	10	5	15	14	10
Little Rock, Ark	10	7.5	17.5	15.5	9.5
Texarkana, Ark	10	5	15	13	9

†Includes city tax of 0.5c.
*Includes 1c city tax.

S. O. California

STANDARD GASOLINE

	T.W.	Total Taxes	T.W.	S.S.	Kerosine T.W.
San Francisco, Cal.	13.5	4	17.5	18.5	11.5
Los Angeles, Cal.	13	4	17	18	9
Fresno, Cal	14.5	4	18.5	19.5	12
Phoenix, Ariz	15	6	21	22	†16
Reno, Nev	15	5	20	21	13
Portland, Ore	14	6	20	21	13.5
Seattle, Wash	14	6	20	21	13.5
Spokane, Wash	17	6	23	24	16.5
Tacoma, Wash	14	6	20	21	13.5

FLIGHT GASOLINE

(*Third Grade*)

San Francisco, Cal.	12	4	16	17	....
Los Angeles, Cal.	11.5	4	15.5	16.5	....
Fresno, Cal	13	4	17	18	....
Reno, Nev	13.5	5	18.5	19.5	....
Phoenix, Ariz	13.5	6	19.5	20.5	....
Portland, Ore	12.5	6	18.5	19.5	....
Seattle, Wash	12.5	6	18.5	19.5	....
Spokane, Wash	15.5	6	21.5	22.5	....
Tacoma, Wash	12.5	6	18.5	19.5	....

†Includes 5c state tax.

Discount to dealers: on gasoline, off t.w. price on Standard Ethyl and Standard Gasoline, to 100% dealers, 3c; to split dealers, 2c; on Flight gasoline, both 100% and split dealers, 2c.

On Stanavo Aviation Gasoline, to all classes of dealers, 3c off t.w.

To commercial consumers: off tank wagon price: on single deliveries of 40 gallons and over, Stanavo Aviation, Standard Ethyl and Standard Gasolines, 3c. Flight Gasoline, 2c per gallon. Tank wagon delivery, less than 40 gals., 1c per gal. above posted t.w. price.

On kerosine in tank car, transport truck and trailer delivery, 3c off t.w. price; plant deliveries to jobbers, 2.5c below t.w.

Canada

PRICES OF IMPERIAL OIL LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

3-STAR IMPERIAL GASOLINE

	T.W.	Total Taxes	T.W.	S.S.	Kerosine T.W.
Hamilton, Ont	16	6	22	*	17
Toronto, Ont	16	6	22	*	17
Brandon, Man	22.8	7	29.8	32.8	22.3
Winnipeg, Man	21.2	7	28.2	31.2	20.7
Regina, Sask	22.5	7	29.5	*	22
Saskatoon, Sask	25.3	7	32.3	*	24.8
Edmonton, Alta	23.5	7	30.5	*	24.2
Calgary, Alta	21	7	28	*	21.5
Vancouver, B. C.	16	7	23	27	23
Montreal, Que	14	6	20	*	17.5
St. John, N. B.	16	8	24	28	18.5
Halifax, N. S.	16	8	24	28	18.5

*Imperial Oil Ltd. transferred stations to dealers; no prices available.

Discounts to Divided Dealers: off s.s. prices: Maritime Provinces, 4c; Ontario, 2½c: Prairie Provinces and British Columbia, 3c, except Vancouver and Victoria, 4c; Quebec, divided dealers pay posted t.w. price. *To Undivided Dealers*: additional 1c discount throughout territory, except in Maritime Provinces.

Aviation Gasoline

Following are tank car and/or tank wagon prices of aviation gasoline in principal marketing territories (Stanavo aviation in all territories except Continental Oil.) Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

In Effect June 14, 1937

S. O. NEW JERSEY

	Tank Car	T.W.
Bayonne, N. J.	9.5	12
Baltimore, Md	10	12
Washington, D. C.		12.6
Richmond, Va		14.7
Greensboro, N. C.		15.2
Raleigh, N. C.		16.6
Charleston, W. Va		14.7

COLONIAL BEACON OIL CO.

	T.W.
Brooklyn, N. Y.	12.8
Buffalo, N. Y.	14.1
Boston, Mass	15

S. O. PENNSYLVANIA

Philadelphia, Pa	12.3
Pittsburgh, Pa	12.6

S. O. LOUISIANA

New Orleans, La	13.3
Shreveport, La	13.6

Prices in above four territories do not include state or federal taxes. They are for 74 octane grade aviation gasoline. An 80 octane product generally brings 0.5c premium and an 87 octane product, 1.5c premium over the 74 octane grade.

Note: S.s. prices in above four territories are generally 6c over t.w. prices. Above t.w. prices are net, with no discounts allowed for quantity purchases. T.w. prices are generally tank car price, plus freight, plus 2.5c per gal.

S. O. OHIO

Thru Ohio

	Consumer T.W.	Tax	Total Consumer T.W.
Stanavo Ethy Aviation:			
73 octane	15.5	5	20.5
80 octane	16.5	5	21.5
87 octane	17.5	5	22.5

Discounts: For delivery on contract to hangar operators and resellers: 2c below commercial consumer posted t.w. price, shown above.

S. O. INDIANA

Chicago, Ill	15	4	19
Detroit, Mich	16.2	4	20.2
Milwaukee, Wisc	15.3	5	20.3
Minneapolis, Minn	15.4	5	20.4
St. Louis, Mo	14.7	*3	17.7
Kansas City, Mo	14.4	*4	18.4
Fargo, N. D.	16.4	4	20.4
Huron, S. D.	15.8	5	20.8

*Includes 1c city tax.
**Includes 0.1c to cover.

HUMBLE OIL & REFINING CO.

	Tank Car
Baytown, Tex. (exclusive of taxes)	8.5

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect June 14, 1937, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

CONTINENTAL OIL CO.

	Dealer	Tax	Total Dealer
Denver, Colo.	15.5	5	20.5
Cheyenne, Wyo.	16	5	21
Helena, Mont.	18.5	6	24.5
Salt Lake City, Utah	17.5	5	22.5
Albuquerque, N. M.	14	*6.5	20.5

*Includes city tax of 0.5c.

S. O. CALIFORNIA

Phoenix, Ariz.	17	6	23
Los Angeles, Cal.	15	4	19
San Francisco, Cal.	15.5	4	19.5
Reno, Nev.	17	5	22
Portland, Ore.	16	6	22
Seattle, Wash.	16	6	22
Spokane, Wash.	19	6	25

Note: For discounts, etc., see note under Standard and Flight gasoline above.

Naphtha (In Tank Wagon)

In Effect June 14, 1937

S. O. NEW JERSEY

Posted Tank Wagon Prices

	Mineral Spirits	V.M.&P.
Newark, N. J.	13.5	15.5
Baltimore, Md.	15.5	....
Washington, D. C.	15	....

Discounts: Buyers taking following quantities, at one time, get these discounts: Newark, 2c per gal. on 200 gals. or more; less than 200 gals., 0.5c higher price. Baltimore 2c off on 25 to 100 gals. and 3c on over 100 gals. Washington, 2c off to contract buyers.

SOCONY-VACUUM OIL CO.

Buffalo, N. Y.	13	14
New York City	‡11.5	‡12.5
Rochester, N. Y.	12	15
Syracuse, N. Y.	14	15
Boston, Mass.	13.5	14
Bridgeport, Conn.	13.5	14
Hartford, Conn.	13	13.5
Providence, R. I.	13.5	14.5

‡Prices are for delivery to underground storage tanks. Lesser quantities pay 0.5c per gal. more.

ATLANTIC REFINING CO.

Philadelphia, Pa.	11.5	12.5
Lancaster, Pa.	13	14
Pittsburgh, Pa.	12.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V.M.&P. Naphtha apply also to Light Cleaners Naphtha.

S. O. OHIO

	S.R. Solvent	V.M.&P. Naphtha
Thru Ohio	13.25	13.75

Note: V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices. Discounts to contract consumers, off t.w. price: 300 to 999 gals., 0.5c; 1,000 to 2,499 gals., 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals., 1.5c.

S. O. INDIANA

(Prices include state and federal taxes)

	Oleum Spirits	V.M.&P. Naphtha	Stanisol
Chicago, Ill.	15.8	16.1	15.5
Detroit, Mich.	19.2	18.2	19.3
Kansas City, Mo.	14.4	15.4	14.4
St. Louis, Mo.	14.7	15.7	14.6
Milwaukee, Wis.	19.3	20.3	19.3
Minneapolis, Minn.	19.4	20.4	18

Note: Prices for V. M. & P. apply also to Light Cleaners Naphtha. All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F. o. b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M.&P. Naphtha	Solvent
Baltimore	10.50	10
New York Harbor	11	10
Philadelphia district	11	10
Boston	10.5	10
Providence	10.5	10
Ohio points, delivered	9.75	*9.25

*This is on S.R. solvent.

Note: In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.5c less than on V.M.&P.

Latest Changes

From June 8 to June 14 inclusive. Dates and amounts of changes shown.

Socony-Vacuum—Socony Mobilgas:
Boston, split dealer t. w. cut 1.2c, June 11.

Providence, split dealer t. w. cut 1c, June 11.

S. O. Indiana—Red Crown gasoline:
T. w. and dealer cut 0.5c, thru territory, June 9, as reported on page 12 of June 9 issue, except unchanged were Detroit, Grand Rapids, and Saginaw; St. Joseph t. w. cut 0.5c, dealer unchanged.

Stanolind:
Dealer prices cut 1c, June 9, except unchanged were Chicago, Des Moines, Milwaukee, St. Louis, St. Joseph and Wichita; cut 0.5c were Detroit, Grand Rapids and Saginaw.

Discount to commercial consumers, in quantities of 1,000 gals. or more per month, on Stanolind, 1c off t. w. price, effective June 9. Was formerly 0.5c.

S. O. Nebraska—Standard Red Crown:
Normal t. w. and dealer prices cut 0.5c, thru territory, June 9, except t. w. at McCook unchanged.

Imperial Oil—All Gasolines:
Montreal, t. w. up 1c, June 8.

Naphtha

S. O. Indiana—Oleum Spirits, V. M. & P., and Stanisol:
Cut 0.5c, Kansas City and Milwaukee, all 3 grades, June 9; Oleum Spirits and V. M. & P. cut 0.5c, St. Louis and Minneapolis; Chicago and Detroit unchanged. Minneapolis naphtha had increased 1c, May 1, to cover state tax increase to 4c.

Corrections

S. O. Kentucky—Crown:
Augusta, up 1.5c, June 7.

Savannah, cut 1c, June 5.

Kyso:
Augusta, up 2.5c, June 7.

TRANSACTIONS IN OIL STOCKS ON NEW YORK STOCK EXCHANGE

1936 High	1936 Low	1937 High	1937 Low	Listed Shares	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended June 12, 1937 Sales Shares	High	Low	Last	Week's Change
125½	75	114⅞	*90	788,675	N.P.	Amerada Corp.	50cQ	Apr. 30, 37	1,300	94	91½	91½	— 1
35⅛	26⅝	37	28	2,664,901	$25	Atlantic Refining Co.	25c	Mar. 15, 37	5,400	30½	28¾	28¾	— ¾
118½	109	116½	107¾	148,000	$100	do pfd. A	$1.00	Feb. 1, 37	100	109¼	109¼	109¼	+ ⅝
28⅜	13¼	43⅜	29⅝	390,223	$10	Barber Co., Inc.	50c	Dec. 20, 36	3,800	32½	30	30	— 1⅝
28¼	14⅛	35¼	24¼	2,247,974	5	Barnsdall Corp.	25c	Feb. 1, 37	6,300	27⅞	25¾	25¾	— 1½
30	8¼	42	26	1,444,970	N.P.	Colonial Beacon Oil Co.	....	....	....	....	....	....	....
17¼	11½	17⅞	14½	13,983,287	N.P.	Consolidated Oil Corp.	20c	Feb. 15, 36	18,800	16	15	15	— ¾
106½	101	105⅞	104¾	132,771	N.P.	do pfd.	$1.25	June 1, 37	500	105⅜	105	105	— ⅛
44⅞	28⅛	47⅜	39¾	4,682,662	$5	Continental Oil Co.	25c	Mar. 29, 37	9,200	44¾	43½	43¾	— ¼
13⅞	6⅜	17⅝	12½	1,098,618	25	Houston Oil Co., v.t.c.	....	....	9,800	16	14⅜	15	— ¾
15⅛	4⅛	22¼	12¾	1,207,132	10	Indian Refining Co.	....	....	200	14	13¾	14	0
51½	13	35¾	28	40,000	100	Louisiana Oil Refining Corp. pfd.	....	....	....	....	....	....	....
6¾	2¼	6¾	3¾	305,000	$1	Maracaibo Oil Exploration Co.	....	....	700	4	3⅞	3⅞	— ⅛
30⅞	17¼	35⅜	27¼	1,855,912	$10	Mid-Continent Pet. Corp.	50c	June 1, 37	4,200	29¼	†27¼	27½	— 1¼
29⅞	16¾	34	25¼	1,399,345	N.P.	Mission Corp.	45c	Dec. 18, 36	1,500	29	27	27	+ ½
18	12¼	22⅞	17⅛	6,563,377	N.P.	Ohio Oil Co.	50c	June 15, 37	13,500	20¼	19	19½	— ¼
23½	11¾	29¾	20¾	1,000,000	N.P.	Pacific Western Oil Corp.	65c	Dec. 18, 36	1,300	23½	22⅞	23	— ¼
20⅝	12¼	17⅛	11	4,699,885	$5	Pan Amer. Pet. & Transp. Co.	60c	Dec. 21, 36	200	11¼	11	11	— ¼
4¼	1⅜	4½	2¾	199,370	N.P.	Panhandle Prod. & Ref'g. Co.	....	....	900	2¾	2¾	2¾	— ¼
74½	18½	121	60	17,994	$100	do pfd.	....	....	400	112	102¼	104	— 5
18¼	12⅜	21⅝	16¼	2,153,444	5	Petroleum Corp. of America	40c	May 29, 37	1,600	17⅞	17	17⅛	0
52⅜	38⅛	59¼	49½	4,152,836	N.P.	Phillips Petroleum Co.	50c	Mar. 1, 37	7,700	57⅛	54¼	54¼	— 2½
18¼	8	20¾	14⅞	150,000	100	Pierce Oil Corp. 8% cum. pfd.	....	....	400	16½	15⅛	15⅜	— ⅞
3⅝	1½	4⅛	3⅛	2,500,000	N.P.	Pierce Petroleum Corp.	....	....	....	....	....	....	....
27¾	11⅞	29⅞	24¼	1,050,000	$5	Plymouth Oil	25c	Mar. 31, 37	5,600	27⅜	26½	26½	— ⅜
24⅞	16	24⅜	17¼	3,038,370	N.P.	Pure Oil Co.	....	....	72,000	18½	17½	17¾	— ⅛
118	91¼	107	99	167,640	$100	do 6% pfd.	$1.50	Apr. 1, 37	100	100¾	100¾	100¾	+ ⅛
133¾	103	112¾	108	130,000	100	do 8% pfd.	$2.00	Apr. 1, 37	710	111⅝	109⅜	109½	+ ⅝
18¾	17	18⅞	16	927,305	10	Quaker State Oil & Ref'g.	25c	June 15, 37	900	17⅝	16¾	17¼	0
44	30½	54⅛	36⅝	1,244,383	N.P.	Seaboard Oil of Del.	25c	June 15, 37	3,000	43	40⅛	40⅛	— 1¼
28¼	14¾	34¾	25⅝	13,070,625	N.P.	Shell Union Oil Corp.	25c	Dec. 15, 36	8,300	30	27¾	27¾	— 1⅝
127½	102	105⅜	102	400,000	$100	do pfd. w.w.	$1.37½	Apr. 1, 37	1,400	105	104	104¾	— ⅛
6¾	3½	4¼	3½	461,000	10	Simms Petroleum Co.	**$1.00	Jan 9, 37	300	3¾	3⅝	3⅝	0
47⅜	19½	60⅝	42	1,008,549	15	Skelly Oil Co.	....	....	1,100	56½	52¼	52¼	— 3¾
132	97⅝	102¼	98½	120,000	100	do pfd.	$1.50	May 1, 37	100	100	100	100	0
17½	12½	20¼	16¼	31,151,075	15	Socony Vacuum Oil Co.	25c	Mar. 15, 37	54,400	19⅞	18⅝	18⅞	— ⅝
47⅝	35	50	40⅝	13,014,754	N.P.	S. O. California	25c	Mar. 15, 37	10,000	43¾	41¼	41¼	— 2
48½	32¾	50	42	15,215,677	$25	S. O. Indiana	25c	June 15, 37	7,500	44⅛	43	43	— ¾
31	25	32	30⅝	145,441	10	S. O. Kansas	$1.00	Dec. 26, 36	100	33½	33½	33½	+ ⅛
70⅝	51⅛	76	63⅛	26,200,825	25	S. O. New Jersey	50c	June 15, 37	15,300	67	65¼	65¼	— 1⅜
91	70	77½	65	2,019,093	N.P.	Sun Oil Co.	25c	June 15, 37	400	66½	65	66½	+ 1
125	118	125	120	100,000	$100	do pfd.	$1.50Q	June 1, 37	10	122½	122½	122½	— ½
6¾	3	7¾	4½	966,979	$1	Superior Oil Corp. (Del.)	....	....	10,600	5⅛	4⅝	4⅝	— ⅛
55¼	28⅞	65⅛	50⅜	9,851,236	$25	The Texas Corp.	50c	Apr. 1, 37	23,100	60½	57¾	58⅝	— 1
15¼	7½	16⅝	11¾	930,570	10	Texas Pacific Coal & Oil Co.	10c	Mar. 1, 37	5,500	14⅞	13⅜	13½	— 1¼
21¾	19	21⅝	16¼	5,873,000	$10	Tide Water Associated Oil Co.	20c	June 1, 37	27,600	17⅜	16⅞	16⅞	— ⅛
106½	100⅝	98	91¾	695,503	$100	do pfd. C. T. V.	$1.12½Q	Apr. 1, 37	500	*98	96	98	+ 2⅝
28½	20¾	28¼	23¼	4,386,070	$25	Union Oil of California	25cQ	Feb. 10, 37	5,500	24½	23⅜	23⅜	— ⅝
31⅝	22⅝	31½	25½	1,200,000	N.P.	Union Tank Car Co.	40cQ	Mar. 1, 37	500	27¼	†25½	25½	— 1½
2⅞	½	1¾	⅝	759,538	N.P.	Warner Quinlan Co.	....	....	600	¾	⅝	¾	+ ⅛
5¼	2¾	6¼	4¼	431,443	$5	H. F. Wilcox Oil & Gas Co.	....	....	2,500	5½	5	5¼	+ ¼

*New high. †New low. Ex-div. **Dividends of liquidation.
E also 6% stock dividend.

SEABOARD MARKETS, EXPORT AND COASTWISE

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). In cargo markets, spot shipment is 90 days. Prices in cents per gallon, except heavy fuel oil in dollars per barrel, in tank car lots, f.o.b. refineries or seaboard terminals in districts designated, unless otherwise noted. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Prices effective June 14, 1937

Eastern Domestic

(Inter-refinery and export prices not included.)

MOTOR GASOLINE

	*60-64 Octane	*65 Octane and Above
New York harbor	†7.25	†7.50
New York harb., barges	7.00	7.25
Philadelphia district	7.25	7.50
Baltimore district	7.25	7.50
Norfolk district	7.00	7.50
Wilmington, N. C. dist.	7.25	7.50
Charleston, S. C. dist.	7.25	7.50
Savannah district	7.25	7.50
Jacksonville district	7.25	7.50
Portland district	7.75	8.00
Boston district	7.25	7.50 – 7.75
Providence district	7.25	7.50

†Some sellers quote 0.25c less for New Jersey delivery.

WATER WHITE KEROSINE

New York harbor	5.625– 5.75
New York harbor, barges	5.50 – 5.625
Philadelphia district	5.75
Baltimore district	5.75
Norfolk district	5.75
Wilmington, N. C.	5.75
Charleston, S. C. district	5.75
Savannah district	5.75
Jacksonville district	5.75
Portland district	6.25
Boston district	5.75 – 5.875
Providence district	5.75 – 6.30

†FUEL OILS

	New York harbor	New York harbor, barges
No. 1	5.625– 5.75	5.50 – 5.625
Nos. 2-3	5.125– 5.30	5.00 – 5.125
No. 4	5.125– 5.30	5.00 – 5.125
No. 5	$1.55 –$1.60	.....
No. 6	$1.35	.....

	Philadelphia district	Baltimore district
No. 1	5.75	5.75
Nos. 2-3	4.75 – 5.00	5.25
No. 4	4.50 – 4.75	5.25
No. 5	$1.47 –$1.55	$1.55
No. 6	$1.30 –$1.35	$1.35

	Boston district	Providence district
No. 1	5.75 – 5.875	5.75 – 5.875
Nos. 2-3	5.125– 5.40	5.125– 5.30
No. 4	5.125– 5.40	4.875– 5.125
No. 5	$1.55 –$1.60	.....
No. 6	$1.35	.....

†Fuel oils meet specifications of U. S. Commercial Standards CS12-35.

	Bunker C Fuel (Ships' Bunkers)	Diesel Oil Ships' Bunkers
New York harbor	*$1.35	**$2.20
Philadelphia district	*$1.30 –$1.35	*$2.20
Baltimore district	*$1.35	**$2.20
Norfolk district	*$1.35	$2.20
Charleston district	$1.30	$2.20
Savannah district	*$1.30	$2.20
Jacksonville district	*$1.30	$2.20
Tampa district	*$1.30	$2.20
Portland district	$1.45	$2.35
Boston district	*$1.35	**$2.25
Providence district	$1.35	$2.25

	Gas Oil 28-34 Gravity per gallon	Diesel Oil Shore Plants Per gallon
New York harbor	5.25	5.25
Philadelphia district	5.00	....
Baltimore district	5.25	....
Norfolk district	5.25	....
Savannah district	....	5.25
Jacksonville district	....	5.25

*For barging add 5c per bbl.
**For barging add 6.5c per bbl.

Pacific Export

(Quotations are at seaboard, Los Angeles, in cargol ots, cents per gallon, except where otherwise noted.)

53-55 U. S. Motor	5.50 – 5.75
400 e.p. blend 65 Octane and above	5.50 – 6.00
38-40 w.w. kerosine, 150 fire point	4.50 – 5.00
41-43 w.w. kerosine	4.75 – 5.00
44 water white kerosine	5.00
Prime white kerosine	4.25 – 4.50

*Nominal.

In Cargo lots, per barre

Diesel fuel oil, above 23.9°	$1.15 –$1.26
Diesel fuel oil, under 23.9°	$1.06 –$1.15
30-34 gas oil	$1.25 –$1.35
Grade C fuel oil	$0.85 –$1.05

In Ships' Bunkers, or deep tank lots, per barrel:

Diesel fuel oil, above 23.9 gravity	$1.25 –$1.60
Diesel, under 23.9 gravity	$1.175–$1.20
Grade C fuel oil	$1.075–$1.10

Cased Goods: (Per case)

Gasoline, U. S. Motor	$1.40 –$1.55
Gasoline, 400 e.p. blend	$1.50 –$1.65
38-40 w.w. kerosine, 150 fire point	$1.25 –$1.40
Kerosine, prime white	$1.20 –$1.30

New York Export

(Prices in cents per gallon in barrels, F.a.s. New York)

CYLINDER OILS (Pennsylvania Products)

Bright stock:	
Light, 25 pour test	32.50
Dark, 25 pour test	32.00
Neutral oil:	
200 3 color, 25 pour test	35.00
150 3 color, 25 pour test	30.50
600 Warren E filtered	26.50
600 stm. rfd., unfiltered	24.50
650 stm. rfd., unfiltered	26.50
600 flash, steam refined	27.50
630 flash, steam refined	31.50

Wax, Domestic *and* Export

(Prices in cents per pound. Tests made by A. S. T. M. methods. Melting points shown below, however, are A. M. P., 3° higher than A. S. T. M. (E. M. P.) melting points. Export prices are f.a.s. carload lots. Domestic prices are f.o.b. refineries in New York and New Orleans districts, in bags, carload lots, with 0.2c discount allowed for shipment in bulk. Scale solid and fully refined slabs in bags.)

	New York Domestic	New York Export
124-6 Y.C. scale	2.70 – 2.75	2.70 – 2.75
122-4 W.C. scale	2.85 – 3.00	2.85 – 3.00
124-6 W.C. scale	2.85 – 3.00	2.85 – 3.00
123-5 Fully refined	4.45	4.375
125-7 Fully refined	4.55	4.50
128-30 Fully refined	4.80	4.75
130-2 Fully refined	5.05	5.00
133-5 Fully refined	†5.50	5.50
135-7 Fully refined	†5.75	5.75

†Shipment either in bags or in bulk.

	New Orleans Domestic	New Orleans Export
124-6 Y.C. scale	*2.75	*2.75
122-4 W.C. scale	*2.85 – 3.00	*2.85 – 3.00
124-6 W.C. scale	*2.85 – 3.00	*2.85 – 3.00
123-5 Fully refined	4.45	4.375
125-7 Fully refined	4.55	4.50
128-30 Fully refined	4.80	4.75
130-2 Fully refined	5.05	5.00
133-5 Fully refined	†5.50	5.50

†Shipment either in bags or in bulk.

Gulf Coast

(Prices are f.o.b. ship at Gulf oil terminals representing opinions of traders, except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

For Domestic Shipment:

MOTOR GASOLINE

59 octane and below	*6.00 – 6.125
60-64 octane number	*6.25
65 octane and above	6.50

FUEL OILS

No. 1 Fuel oil	4.75 – 5.00
No. 2 Fuel oil	4.00
No. 4 Fuel oil	3.875

KEROSINE

41-43 w.w.	4.75 – 5.00

For Export Shipment:

GASOLINE

U. S. Motor gasoline	5.875– 6.00
60-62, 400 e.p. gasoline	6.00 – 6.125
61-63, 390 e.p. gasoline	6.125– 6.25
64-66, 375 e.p. gasoline	6.25 – 6.375

KEROSINE

44 water white	5.00
41-43 water white	4.75 – 5.00
41-43 prime white	4.75 – 4.875

GAS AND BUNKER OILS

For Domestic and/or Export Shipment

‡26-30 translucent gas oil	3.875
‡30 plus translucent gas oil	4.00
‡30 plus transp. gas oil	4.00
Diesel Oil Ship's bunkers	†$1.90
Grade C bunker oil, for ship's bunkers	††$1.05
Grade C bunker oil, in cargoes	$0.95

‡Less than ½ of 1% sulphur. †Barging 5c bbl. additional at some Gulf ports.

MEXICAN CRUDE AND BUNKER OILS

(F.o.b. Steamer, Tampico)

Heavy Panuco crude, taxes to be paid	*$1.35
Grade C bunker oil, ship's bunkers, taxes paid	$1.05

MID-CONTINENT LUBRICATING OILS

(Prices in cents per gallon in bbls. f.a.s. Gulf oil terminals. In drums and new barrels, 0.5c to 1c higher per gal. in some instances.)

190-200 vis. D 210 bright stock	28.50
150-160 vis. D 210 bright stock:	
0-10 pour point	25.50
10-25 pour point	25.00
25-40 pour point	24.50
150-160 vis. E 210 brt. stock	24.50
120 vis. D 210 bright stock	23.50
180 vis. No. 3 color neutral Oil:	
0-10 pour point	16.50
15-30 pour point	16.00
200 vis. No. 3 color neutral Oil:	
0-10 pour point	17.00
15-30 pour point	16.50
600 s.r. olive green	12.50
600 s.r. dark green	11.00
631 s.r.	23.00

SOUTH TEXAS LUBRICATING OILS

(Viscosity at 100° F., pour point 0. Tanker, f.o.b. Gulf oil terminals, for export shipment)

Unfiltered Pale Oils:

Vis. Color	
100 No. 3	5.25 – 5.50
200 No. 3	6.00 – 6.50
300 No. 3	6.50 – 7.00
500 No. 3½	7.625– 7.875
750 No. 4	8.75 – 9.00
1200 No. 4	9.50 – 9.75
2000 No. 4	10.00 –10.125

Red Oils:

Vis. Color	
100 No. 5-6	5.00 – 5.25
200 No. 5-6	5.875– 6.50
300 No. 5-6	6.25 – 6.75
500 No. 5-6	7.50 – 7.625
750 No. 5-6	8.75 – 9.00
1200 No. 5-6	9.50
2000 No. 5-6	10.00

Note: Red oil prices shown above cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to U. S. ports in cents per barrel)

	Crude &/or Fuel		Refined Oil &/or Spirits	
	Last Paid	Owners Ask	Last Paid	Owners Ask
Gulf-U.K./Cont.‡	29/	30/-31/	32/	33/-33/6
Aruba-U.K./Cont.‡	25/	25/6-27/	27/6	28/-31/
Gulf-N. Atlantic** (not E. of N. Y.):				
Hvy. Crude & Fuel, (10 to 19.9 gravity)	58c-59c	*58c-59c	....	....
Light Crude, (30 gravity or lighter)	55c	*55c	....	....
Gasoline	....	....	55c	*55c
Kerosine	....	....	55c	*55c
Light Fuel	....	....	53c	*53c

Note: Dirty boat quotations are enlarged to cover, "Fuel and Light Crude" quotations.

‡Continental ports in range between Bordeaux and Hamburg, both inclusive.

**Venezuela loading same rate; Tampico 2c to 3c per bbl. additional.

STANDARD OIL STOCKS ON NEW YORK CURB MARKET

1936 High	1936 Low	1937 High	1937 Low	Listed Shares	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended June 12, 1937 Sales Shares	High	Low	Last	Week's Change
18	12¼	19	15¼	36,000	$25	Borne Scrymser Co.	75c	Apr. 15, 37	.....	.....	.....	.....	.....
50	39¾	51½	46	200,000	50	Buckeye Pipe Line Co.	$1.00	June 15, 37	.....	.....	.....	.....	.....
124¾	105	122¼	110¼	120,000	25	Chesebrough Mfg. Co.	$1.00Q	Mar. 29, 37	100	117	117	117	+ ¼
39	19⅞	38	28½	6,974,356	$5	Creole Petroleum Co.	25c	June 10, 37	5,200	34¼	33½	33½	0
47½	38½	47½	34	50,000	$50	Eureka Pipe Line Co.	$1Q	Feb. 1, 37	250	36	†34	34	— 2½
80	57	87	75	8,985,662	N.P.	Humble Oil & Refg. Co.	37½c	Apr. 1, 37	3,700	79½	76½	76½	— 2
24½	19¾	24¼	20⅛	26,965,078	N.P.	Imperial Oil Ltd.	°25cS	June 1, 37	4,000	21⅜	20½	21⅛	+ ⅛
24⅜	19⅞	24	20⅜	.....	N.P.	do registered	25cS	Dec. 1, 36	300	20¾	20⅝	20¾	— ¼
9¾	5½	14⅞	7¾	300,000	$10	Indiana Pipe Line Co.	20c	Dec. 17, 36	200	11	11	11	— ⅛
39⅝	32⅝	39½	33⅝	14,324,088	N.P.	International Pet. Co.	°75cS	June 1, 37	5,400	35⅛	†33⅝	33⅝	— 1¾
38½	33⅜	38	34¾	.....	.....	do registered	.....	.....	.....	.....	.....	.....	.....
15¾	9¼	12½	10	509,000	$12.50	National Transit Co.	45c	June 15, 37	600	10⅜	10⅛	10⅜	— ⅜
6¼	4¼	5⅜	4½	100,000	5	New York Transit Co.	15c S.A.	Oct. 15, 36	.....	.....	.....	.....	.....
9¾	4⅞	12¾	7½	120,000	10	Northern Pipe Line Co.	40c	June 1, 37	300	10¼	10¼	10¼	0
110⅝	104½	111½	106¾	562,122	100	Ohio Oil Co. pfd.	$1.50Q	June 15, 37	800	109⅝	109	109⅝	+ ⅞
8¼	5½	8¾	5½	394,000	$1	Penn Mex Fuel Co.	50c	Dec. 21, 36	.....	.....	.....	.....	.....
44	32½	48	42	1,142,671	10	South Penn Oil Co.	37½cQ	Mar. 31, 37	1,000	45	44	44	+ 1½
7⅞	3¼	7¼	5	100,000	25	Southern Pipe Line Co.	20c	Mar. 1, 37	100	5½	5½	5½	+ ⅛
60	44	42	27	35,000	10	South West Pa. Pipe Lines	50c	Apr. 1, 37	100	27	†27	27	— 3
23⅜	17⅛	20¾	19	2,604,801	50	S. O. Kentucky	25c	June 15, 37	1,200	19⅝	†9⅜	19½	— ⅛
14⅝	11	13¾	11	182,803	25	S. O. Nebraska	25c	Mar. 29, 37	300	11½	11¼	11¼	— ¼
40	21¾	45	33¼	753,740	25	S. O. Ohio	25c	Mar. 15, 37	400	37¼	36¼	36¼	— 1¼
107½	97	105¾	102½	120,000	100	do 5% pfd.	$1.50Q	Apr. 15, 37	75	103	†102½	103	+ ¼
13⅜	5½	17	11	34,158	15	Swan Finch Oil Corp.	....	.....	200	15¼	15	15¼	+ 1¼

*New high. †New low. °Imperial Oil Spec. 37½c June 1, 37. International Pet. Extra 50c June 1, 36.
x Ex dividend.

Oil and Royalty Stocks on New York Curb

1936 High	1936 Low	1937 High	1937 Low	Par Value	Company	Transactions Week Ended June 12, 1937 Sales Shares	High	Low	Last	Week's Change
1⅞	*	2⅜	1¼	N.P.	American Maracaibo	11,200	1⅞	1¾	1¾	0
8¼	3¼	12⅞	6¼	N.P.	Arkansas Nat. Gas	3,000	7½	6½	6¾	— ½
8¼	3¼	13¼	6¼	N.P.	do A	8,000	7⅞	6¾	6¾	— 1
10⅞	7⅛	10¾	8¼	$10	do pfd	1,700	9	8¾	8⅞	— ⅛
7¼	6¼	8¼	6	$1	Ashland Oil & Refg.	1,000	6¼	6⅛	6⅛	— ⅛
27¼	16½	26¼	22⅝	N.P.	British Amer. Oil coup.	100	22⅝	22⅝	22⅝	— ⅛
4⅞	1⅞	2¾	1¾	$¼	Carib Syndicate	3,200	1⅞	1¾	1¾	0
7⅜	3	5⅜	3	N.P.	Cities Service	33,000	3⅛	2⅞	2⅞	— ¼
66	41½	60	45	N.P.	do pfd	2,500	47½	†45	45½	— 2
6½	3¾	5⅞	4½	N.P.	do pfd. B	200	4½	4½	4½	— ⅜
63	40	58	42	N.P.	do pfd. BB	40	45	45	45	— 1
4	⅝	....	....	N.P.	Colon Oil Corp.	.....	.....	.....	.....	.....
10½	¾	10⅞	6½	$1	Columbia Oil & Gas	6,200	7¼	6⅝	6⅝	— 1
3⅛	2	3½	2⅝	$10	Consolidated Royalty	.....	.....	.....	.....	.....
4½	1½	4⅝	1¼	$1	Cosden Oil	6,300	1⅝	1¼	1⅜	— ⅛
38¼	6½	39⅞	23	$100	do pfd	700	24	23½	24	+ 1
2¾	1¾	2⅝	1⅞	N.P.	Crown Central Pet.	2,900	2	1⅞	1⅞	— ⅛
2⅞	¾	2⅝	⅞	N.P.	Crystal Oil Refg.	1,600	1	⅞	1	0
....	....	9½	4	....	do pfd	150	6	5¾	6	— 3⅜
18½	9	18½	11¾	$5	Darby Petroleum	600	12½	12⅛	12⅜	+ ⅛
6¾	1⅞	8¼	5¼	N.P.	Derby Oil & Refg.	1,000	6½	6⅜	6⅜	— ⅛
81	25½	88	76	N.P.	do pfd	50	82	81	81	— 1⅛
59	54	63½	51⅝	$25	Gulf Oil Corp.	8,600	55	52	52⅛	— 1⅜
6¼	2⅝	4⅞	2⅝	N.P.	Indian Ter. Illg. Oil A	.....	.....	.....	.....	.....
6½	3	4⅞	2¾	N.P.	do B	.....	.....	.....	.....	.....
5¾	2⅝	8¾	5¼	$1	Kirby Petroleum	1,000	6⅝	5¾	5¾	— 1
2	½	2½	†‡	$25	Leonard Oil	3,400	1⅛	1	1	— ⅛
17¾	7⅜	28⅝	16⅛	N.P.	Lion Oil Refg.	12,800	*28⅝	27¼	27⅝	— ⅛
14¼	9⅞	14¼	10⅜	N.P.	Lone Star Gas	2,900	10¾	10½	10½	— ¼
22¼	12	33½	25	N.P.	Margay Oil Co.	.....	.....	.....	.....	.....
4⅛	1½	4¼	2	N.P.	Mexico-Ohio Oil	1,000	2	2	2	0
4¾	1⅞	11⅛	2¾	$1	Michigan Gas & Oil	1,800	8½	8	8½	+ ⅜
6⅝	2¾	7	4⅛	N.P.	Mid. States Pet. A vtc.	600	5	4⅝	4¾	0
2⅝	†‡	2	1	N.P.	do B vtc	800	1⅛	1	1	0
8⅜	5	7⅞	6	$10	Mountain Producers	2,200	6¼	6⅛	6⅛	— ⅛
23	17⅜	19½	15	N.P.	National Fuel Gas	2,300	15½	15	15⅛	— ½
4⅝	2⅞	6⅛	4¾	$5	New Bradford Oil	.....	.....	.....	.....	.....
8⅜	3⅜	6⅛	5	$5	North Central Texas	1,000	5½	5½	5½	— ⅛
‡‡	⅛	¾	⅛	$1	North European	2,300	⅜	⅛	⅛	0
17⅝	12	14½	12⅝	$5	Oil Stocks Ltd. A	300	13⅛	†12⅝	12⅝	— ⅜
10⅛	3¼	9⅝	5½	$1	Pantepec of Venezuela	35,300	8⅛	7¼	7⅝	— ¾
‡‡	⅛	‡‡	‡‡	25c	Producers Corp.	1,900	⅜	⅛	⅜	0
20	3	17½	10	N.P.	Red Bank Oil	200	13⅞	13½	13½	— ½
1½	‡‡	1¾	¾	N.P.	Reiter-Foster Oil	4,300	1⅛	⅞	1	0
2¾	¼	....	....	$25	Richfield Oil pfd.	.....	.....	.....	.....	.....
19¼	4½	13¾	5	$1	Root Petroleum	1,300	5¾	5½	5½	— ¼
23	14½	18	11½	$20	do conv. pr. pfd.	100	11½	†11½	11½	— ½
4⅜	1⅞	6½	4	N.P.	Ryan Consolidated	5,400	6⅛	5¾	6	+ ⅛
11¼	6¾	11¼	8⅝	N.P.	Southland Royalty	1,700	10½	10	10¼	+ ¼
5	2⅝	4⅞	3¾	$1	Sunray Oil	4,100	4⅛	4	4	0
49	45	50	43½	....	do pfd	.....	.....	.....	.....	.....
9¾	5¾	7⅝	5⅝	N.P.	Texon Oil & Land	700	6	5⅞	6	+ ⅛
8	2⅝	9¼	6	....	Venezuela Mex.	100	6¾	6¾	6¾	0
3	1¼	3¾	1¾	$1	Venezuela Petroleum	5,400	2	1¾	1¾	— ⅛
11	5⅝	12⅞	8⅜	$1	Woodley Petroleum	400	8¾	8⅜	8¾	+ ½

*New high. †New low.

Oil Dividends

Dividends Waiting Payment

Company	Amount	Record	Payable
Ashland Oil & Refg. q	10c	June 21	June 30
Atlantic Oil Investment	20c	June 19	July 10
Chesebrough Mfg. E	50c	June 4	June 28
Chesebrough Mfg. q	$1.00	June 4	June 28
Continental Oil Sp.	25c	June 9	June 30
Continental Oil	25c	June 9	June 30
Darby Petr. S.	25c	July 2	July 15
Eason Oil pfd. q	37½c	June 19	July 1
Gulf Oil Corp	25c	June 15	July 1
Humble Oil & Refg. q	37½c	June 1	July 1
Lion Oil Refg. E	25c	June 30	July 20
Lion Oil Refg. q	25c	June 30	July 20
North Cent. Texas Oil	15c	June 10	July 3
Plymouth Oil	35c	June 2	June 30
Pure Oil Co. 8% pfd. q.	$2.00	June 10	July 1
Pure Oil 6% pfd. q	$1.50	June 10	July 1
Pure Oil Co. 5¼% pfd. q.	$1.25	June 10	July 1
Root Petr. Conv. pfd q	30c	June 19	July 1
Shell Union Oil pfd. q	$1.37½	June 15	July 1
Skelly Oil R	50c	June 1	July 1
South Penn Oil E	37½c	June 15	June 30
South Penn Oil q	37½c	June 15	June 30
South West Pa. Pipelines	50c	June 15	July 1
Southland Royalty	10c	June 5	June 21
Sunray Oil Corp. pfd. q	68¾c	June 7	July 1
Swan-Finch Oil R	25c	June 14	June 25
Swan-Finch Oil Ac	$3.00	June 14	June 25
Texas Corp. q	50c	June 11	July 1
Tide Water Asso. Oil $4.50 pfd. q	$1.12½	June 10	July 1

E extra; R resumed; S semi-annual; sp special.
Ac. On accumulations.

Pittsburgh Stock Exc.

Transactions Week Ended June 11, 1937

	Sales	High	Low	Last	Change Over Week
Ark. Nat. Gas	50	7	7	7	0
do pfd	10	8¾	8¾	8¾	0
†Cities Serv	50	3⅛	3⅛	3⅛	+ ⅜
Col. Gas & Elec.	584	12⅛	11¼	11¼	— ¼
Devonian Oil	100	24	24	24	0
Lone Star Gas	1,953	10¾	10½	10⅝	— ¼
† do 6½ p.c. pfd	100	111½	111½	111½	+ ½
Mountain Fuel Supply	2,148	8⅝	8¼	8¼	— ⅛
Phoenix Oil	5,000	.06	.06	.06	0
Pgh. Oil & Gas	1,155	2¼	2¼	2¼	+ ¼
Plymouth Oil	4	27	27	27	— ⅛
Shamrock Oil & Gas	4,885	7¼	6¾	7¼	+ ⅛
do new pfd	100	120	120	120	.....
†Stand. Oil of N. J.	28	66¾	65⅞	65⅞	— 1⅛
Waverly Oil Wks. A	100	5	5	5	0

†Unlisted.

New York Bonds

Week Ended June 12

	High	Low	Last	Change
Atlantic Refg. deb. 5s	100 1/16	100 1/16	100 1/16	— 3/16
Houston Oil 5½s '40	102⅜	102	102	— ⅜
Pure Oil 4¼s '50 x.w.	102¼	102⅛	102⅛	— ⅛
Pure Oil 4¼s '50 w.w.	112⅝	109⅞	110⅛	— 1¼
Richfield Oil of Calif. 6s ctfs	45⅛	45⅛	45⅛	+ ⅛
Shell Union Oil 3½s '51	99¼	98⅝	98⅝	— ⅝
Skelly Oil 4s '51	100	99	99	—1
Socony-Vacuum 3½s '50	105	104¾	105	+ ¼
S. O. N. J. 3s '61	98	97¾	97¾	— ⅛
Union Oil of Calif. 3½s '52	110½	109½	109½	— ⅝
do 6s A	117⅜	117⅜	117⅜	+ ⅛
Warner-Quinlan 6s '39	49	48	48½	0

Cleveland Stock Exc.

Transactions Week Ended June 12, 1937

	Sales	High	Low	Last	Change Over Week
Canfield Oil	12	99	99	99	0
do pfd	.....	.....	.....	.....	.....
Nat'l Refining	454	8½	7⅝	7⅝	— ⅞
do pfd	10	100	100	100	+1

New York Curb Bonds

Week Ending June 12

	High	Low	Last	Change
Cities Serv. 5s '66	71½	69	69	—2¼
do 5s '50	70⅜	66½	67	—3
do G. 5½s '42	101	100¼	100¼	— ¾
Empire O & R. 5½s '42	87¼	85⅝	86	+ ⅜

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High Spots Of Next Week's Meetings

National Oil Scouts Assn. of America, Baker Hotel, Dallas, Tex., June 24, 25, 26.

June 25, Morning:

"Recovery of Cased-Off Production and Its Effect on National Oil Reserves," by Bruce Barkis, Lane-Wells Co. of Texas.

June 26, Morning:

"Water Flow Location by Means of Photoelectric Survey," by E. F. Stratton.

"Directional Drilling," by Mr. Hughes, Eastman Oil Well Survey Co.

Coming Meetings

General Expositions

The Greater Texas and Pan American Exposition, Dallas, June 12 to Oct. 31.

The Great Lakes Exposition, Lake Front, Cleveland, Ohio, May 29 to Sept. 6.

Oil Meetings

Oil & Gas Golden Celebration, Findlay, Ohio, June 20 to 26.

Virginia Petroleum Jobbers Association, annual meeting, Hotel Patrick Henry, Roanoke, Va., Wednesday, June 23.

National Oil Scouts Association, Dallas, Texas, June 24 to 26.

American Society for Testing Materials, 40th annual meeting, and 4th exhibit of testing apparatus, and related equipment. The Waldorf-Astoria, New York City, June 28 to July 2.

Interstate Oil Compact Commission meeting, Santa Fe, New Mexico, July 12 and 13.

Third Michigan Oil and Gas Exposition, Exposition Park, Mt. Pleasant, Mich., Aug. 10 to 15.

American Chemical Society, Rochester, N. Y., Sept. 6 to 10.

Kentucky Petroleum Marketers Association, Annual Fall Conference and Golf Tournament, Louisville, Sept. 7 and 8.

Third Annual Bituminous Conference, Glacier National Park, Mont., Sept. 7, 8 and 9.

National Petroleum Association, annual meeting, Hotel Traymore, Atlantic City, N. J., Sept. 15, 16 and 17.

Pacific Oil Show and Black Gold Festival. Taft, Calif., Sept. 16 to 19.

National Association of Petroleum Retailers, fifth national convention, Rochester, N. Y., Sept. 27 to Oct. 1.

American Gas Association, 19th annual convention, Cleveland, Ohio, Sept. 27 to Oct. 1.

Ohio Petroleum Marketers Association, fall conference, Hotel Carter, and golf tournament, Westwood Country Club, Cleveland, Sept. 29 and 30.

Society of Automotive Engineers, Fuel and Lubricants Regional meeting, Tulsa, Okla., Sept. 30 and Oct. 1.

Society of Automotive Engineers, National Aircraft Production meeting, Ambassador Hotel, Los Angeles, Calif., Oct. 7, 8 and 9.

26th National Safety Congress and Exposition, Kansas City, Mo., Oct. 11 to 15.

Oil-World Exposition, Inc., Houston, Texas, Oct. 11 to 16.

25th Annual Conference on Taxation, auspices New England State Tax Officials Association, Hanover, N. H., Oct. 14 and 15.

Independent Petroleum Association of America, Houston, Texas, Oct. 14, 15 and 16.

American Association of Petroleum Geologists, mid-year meeting, William Penn Hotel, Pittsburgh, Pa., Oct. 14, 15 and 16.

Michigan Petroleum Association, Traverse City, Mich., Oct. 21 and 22.

National Tax Association, 30th annual conference, The Lord Baltimore Hotel, Baltimore, Md., Oct. 25 to 28.

Oil Trades Association of New York, New York, Oct. 26.

Society of Automotive Engineers, annual dinner, Commodore Hotel, New York City, Oct. 28.

Mid-Continent Oil & Gas Association of Texas, annual meeting and convention, Dallas, Texas, Oct. 29 and 30.

National Automobile Show, Grand Central Palace, New York City, Oct. 27 to Nov. 3.

National Oil Marketers Assn., convention and trade exhibit, Chicago, Ill., sometime in October.

American Petroleum Institute, 18th annual meeting, Stevens Hotel, Chicago, Ill., Nov. 9 to 12.

National Asphalt Conference, Memphis, Tenn., week of Dec. 6.

Exposition of Chemical Industries, Grand Central Palace, New York, N. Y., Dec. 6 to 11.

Society of Automotive Engineers, National Production meeting, Flint, Mich., Dec. 8, 9 and 10.

Nebraska Petroleum Marketers, Inc., Omaha, Nebr., Dec. 14, 15 and 16.

American Chemical Society, Division Organic Chemistry, Richmond, Va., Dec. 28, 29 and 30.

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Pa. Refinery Lubricating Oil Inventory

(Issued as of June 3 by National Petroleum Assoc.)

	Gallons
1. **Raw Long Residuum** (Including all raw long residuum below, and not salable, as 600 fire)	1,675,396
2. **600 Steam Refined** (Includes all steam refined stock commonly sold or used as 600 and as raw material for bright stocks)	5,778,228
3. **Other Steam Refined** (Not included in 1 and 2, above)	4,016,569
4. **Finished Dewaxed Long Res.**	2,056,567
5. **Bright Stock** (Does not include any material reported in 4, above)	11,765,003
6. **Viscous Neutral,** below 180 vis. but not below 142 vis. @ 100	7,010,445
7. **Viscous Neutral,** 180 vis. @ 100 and above	4,730,128

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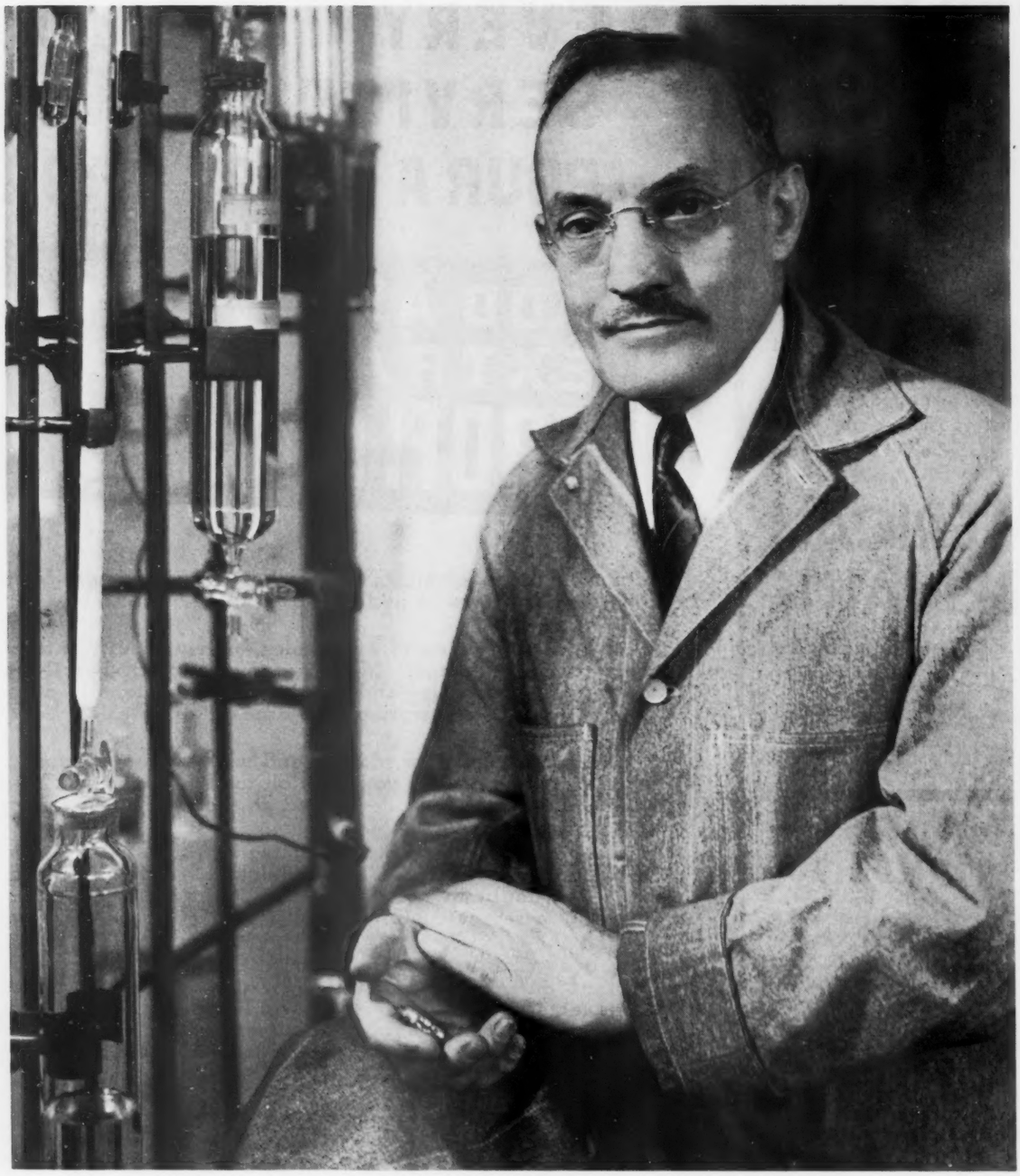

DR. GUSTAV EGLOFF

● Most fitting it is that a photograph of Dr. Gustav Egloff, director of research, Universal Oil Products Co., should show a stop watch in his hand, for the scope of his activities would shame many a high-pressure executive. He was in Paris as chairman of the American technical papers committee for the second World Petroleum Congress, June 14-19, and also was chairman of the refining division of the same meeting. He was also appointed a vice president of the Congress.

After study in various universities — his doctor's degree being granted from Columbia— Dr. Egloff worked for a time as a chemist and from 1917 on has been in charge of research work for the UOP. He is the author of 325 articles relating to the oil industry, mostly on cracking and refining. He has been granted 250 patents here and abroad on oil processing. He is a member of numerous societies, has lectured in many schools, has spent more time in the witness chair as an expert on refining probably than any other oil man, has been an official delegate to many technical conferences in various countries. For his work in connection with the petroleum and chemistry exhibits at the Chicago Fair, he received an official Certificate of Appreciation.